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THE PAPER TRADE JOURNAL.

"The Consumption of Paper is the Measure of a People's Culture."

VOLUME XXIV.—NO. 20. NEW YORK, MAY 18, 1895. WHOLE NUMBER 1098.

Trade Topics.

How Is the Paper Trade to be Improved?

A Rejoinder.

[WRITTEN FOR THE PAPER TRADE JOURNAL.]

By Clarence Beebe.

There is probably general acquiescence with the views expressed by James Hall, who in THE PAPER TRADE JOURNAL of April 27 bemoans the state of the paper trade; but I take decided exception to the remedies which he proposes.

Conceding that there is an overproduction of paper, I contend that circumstances which accompany this peculiar feature of the trade point emphatically to the creation of a new market for our paper as the only satisfactory solution of the question.

To mention the creation of a new market is to find one already at our doors.

To suggest a lessening of production is to indorse an act of moral cowardice in the presence of conditions which should engage the immediate attention of the trade.

He who would look with patience upon the banked fires and silent machines of American paper mills would witness the gathering of idle workmen with composure and indifference.

The second remedy suggested, of shortening the hours of labor, is a necessary corollary to the first suggestion, and is as sadly to be deprecated.

The export of paper from the United States to various countries of the world has admittedly increased to a surprising extent over the last few months. Figures are easily accessible to verify this statement, but this fact is not the most potent one to emphasize my contention.

Observation shows that the transatlantic mails were never more burdened with this subject than now. Every incoming mail steamer brings correspondence from Continental and British buyers to the paper mills of this country, either conveying orders or making inquiries for various grades of paper. Much of this correspondence is thrown aside because of unfamiliarity on the part of the manufacturers with the modes of foreign business; but it is known that the export of other grades of paper besides news is an actuality, that the field is widening and the demand is increasing. These are not empty words. The opportunity is here, and as a true solution of the question of overproduction there can be no two opposing ideas.

I have in my possession data to indicate the possibilities of successfully exporting paper to Continental countries which would astonish the owner of that 10 ton mill who is preparing to shut down for want of a market. Without any degree of boasting, so painfully common among many Americans, as to the superiority of their country and its ability to supply the world its wants, I confess to a degree of respect for the possibilities of our paper manufacturing facilities to compete legitimately for the trade of the world.

My personal experience with buyers in almost every country of Europe has been satisfactory. I have found them willing and ready to consider qualities and prices of American paper. The novelty of the situation may have been an entering wedge, but a beginning has been made, and it only lies in conservative and careful action to nurse it into a flourishing business.

Another remedy that I would apply would be the careful investigation of those grades of paper now imported here, so as to determine the feasibility of manufacturing the grades in our domestic mills, there being yet, notwithstanding the tariff, a considerable amount of paper imported.

Respecting the attention which is already being paid to the export of paper by numerous manufacturers in this country, as evident in the actual weekly shipments of grades other than news, there is an independence of action going on, a sort of hastening to absorb all of the trade possible before it becomes known to the neighboring and competing mills, which I presume is largely unavoidable; at the same time it is unquestionably a suicidal policy.

In this connection I recall a suggestion which was incorporated in the report of the committee on export trade at the meeting of the Paper Manufacturers' Association in February last, looking to the improvement of this mode of fostering an export trade. This demonstrates that the "exertions and activities of the Paper Manufacturers' Association" have suggested a solution of the difficulty, notwithstanding Mr. Hall's cynical statement.

There are undoubtedly those in the trade who claim to possess specially favorable facilities to carry on an export trade, and who, exercising their right, are monopolizing the cream of the business as at present conducted.

It is the undisputed right of such persons to appropriate all that there is in sight by their active agencies. It remains, however, if the Paper Manufacturers' Association is something besides a means for the advantage of the individual, for it to assist by every legitimate means the general prosperity of the manufacturers of the country by encouraging concert of action among them.

For gigantic paper corporations to actively accelerate the downfall of smaller concerns and drive them from the field of honorable competition is, to paraphrase a familiar quotation, "magnifique mais ce n'est pas guerre"; rather it is cruelly wrong and it is not a fair contest.

The point made by Mr. Hall respecting the operation of mills during the Sabbath is one with which very few persons interested will disagree; it is proper to cease work on that day, and there are probably very few mills throughout the country which desecrate that day by demanding of their employees active work.

The statement respecting prices made at the last meeting of the Paper Manufacturers' Association, to the effect that "bottom had been reached," was probably nearer the fact than was realized by the speaker who made it. For both paper and pulp it does not seem possible to quote lower prices with any margin of profit. The turning point seems to be in sight, and with promise of more enlightened views at Washington a steady gain in the direction of improvement can be expected.

My position is, then, knowing the desire of a large number of manufacturers to cultivate a foreign trade and knowing the certainty of securing that trade under proper management, that the object can be best attained in the interest of the manufacturers by negotiating through some common channel or agency, say in New York, where the details of tariff and transit expenses abroad are well known, as well as the requirements demanded respecting packages and payments.

The responsibility, in my judgment, lies with active members of the Paper Manufacturers' Association. The recommendations which its committee have made should not be mere empty words, but means should be adopted to carry out such ideas for the benefit of the whole trade.

The Right to Call Back.

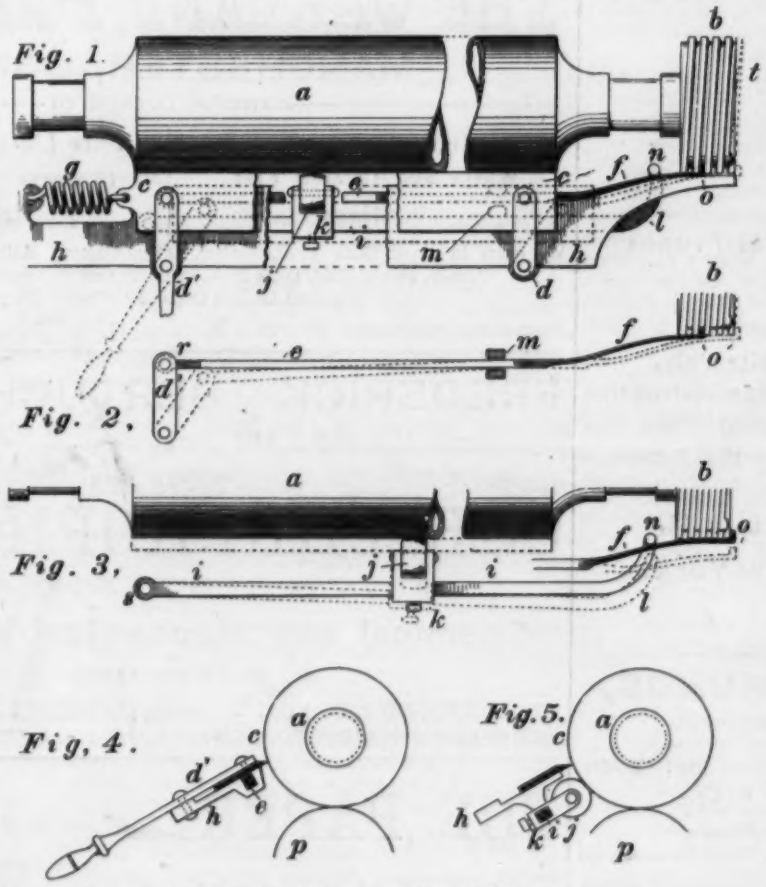
[WRITTEN FOR THE PAPER TRADE JOURNAL.]

That "there is many a slip 'twixt the cup and the lip" is as true in commercial as in the ordinary affairs of life; and it sometimes happens that a merchant who has made a shipment of goods to a distant customer learns that instead of realizing a handsome profit he is likely to lose his investment, unless he can prevent delivery. The right to do this is termed in legal phraseology stoppage in transitu, and exists only between a buyer and seller. The following circumstances must concur: The goods must have been sold on credit; the consignee must be insolvent; the goods yet in transit, and not yet delivered to the consignee, and the buyer not yet have parted with his ownership to any bona fide purchaser without notice.

The right exists only on actual insolvency of the buyer, but this need not be formal insolvency or bankruptcy at law; an actual inability to pay debts in the ordinary course of business is sufficient. It has been held that the insolvency must occur after the sale, but the fact that he was insolvent at the time will not defeat the right of the seller if the latter was not aware of the fact; but where the testimony showed that he had been aware of insolvency and made the sale trusting to the honor of the buyer for payment, it was held that the goods could not be stopped as against an attaching creditor of the buyer, as it is essential to the exercise of this right that the consignor shall learn of the consignee's insolvency after the goods are shipped.

The buyer may, of course, defeat the stoppage by paying the purchase money, and it has been said that he may do this on giving sufficient security for the fulfillment of his obligation. If before delivery the seller requires security or the return of the goods, the demand must be for actual and sufficient cause, and he assumes the risk of damage to the buyer in case his charge shall not be sustained by the evidence. The stoppage must be effected by the seller, and evidenced by some act; but it is not necessary that he shall take actual possession of the goods, as he may give notice to the party in possession, whether carrier, warehouseman, middleman, or whoever else is in possession, and this is enough. They must be stopped before they go into the possession of the buyer; but the latter may be in constructive possession, as where he has the key to the warehouse and like conditions, or if the carrier holds them only as his agent. If the carrier holds them for charges against the buyer the seller has the right to pay the freight and retake the goods, and he is not obliged to pay a general demand which the carrier may have against the buyer. Until they come into the possession of the buyer actually or constructively they are in transit, and the right of reclamation exists. Where the goods were delivered at the place of business, the sheriff being in possession, and they were taken by him and sold as the property of the execution debtor, the seller had the right to follow them and retake, although they were then in the possession of a bona fide purchaser at sheriff's sale. So where they were delivered to mortgagees of the buyer's store, who had taken possession, and the goods were sold by them, it was held that the seller could follow them into the hands of anyone buying from such parties, in apparent possession and seeming ownership; and, although part of the goods might have been delivered to the buyer, the right existed as to such as had not yet come into his possession. It is not essential to the enforcement of the seller's right of stoppage that the goods against which the right is sought to be enforced shall be found, and the seller may exercise that right although the property in question had been attached by a creditor of the buyer, and taken possession of by a third person, who claimed to have purchased them, on his giving a bond to produce them if the issue was decided against him.

As the seller only exercises his right of lien when he has stopped or retaken goods as the property of the buyer subject to such lien, he holds them subject to the right of the latter to redeem, and, if this is not done he has the right to resell, and after giving credit for the amount realized, if that fails to satisfy the debt, he has a claim for the balance against the former buyer. A vendor who has stopped in transit a part of the goods sold, and has never offered to deliver them on payment of the contract price, is only entitled to be allowed, in the vendee's insolvency proceedings, for the goods which were actually delivered, since the presumption is that he has taken the goods stopped in payment for their price.



Apparatus for Cutting Sheets from Rolls.

An electric power transmission system of considerable magnitude has recently been projected near Atlanta, Ga., where water power of the Chattahoochee River will afford, it is estimated, from 30,000 to 40,000 horse power. A company has been organized to develop this power and transmit it to Atlanta and vicinity. It is proposed to erect dams and power houses at points 9 and 13 miles distant from Atlanta which will generate 15,000 horse power each.

Apparatus for Cutting Sheets From Rolls.

The apparatus herewith illustrated has been designed to provide an improved method of cutting sheets of pulp or strawboard from the forming roll of the wet machine.

Most pulp makers have considered it impracticable to use a knife. The well-known difficulty of cutting a sheet of common paper, when wet, with shears of which, even with the advantage of meeting edges, the blades are liable to clog and spring apart, indicates the greater difficulty of cutting a thick wet sheet when clinging to the roll. It has been proposed to use a blade springing out from the roll itself, which might tear its way through, as the pin in the hand of the attendant does, but this is not cutting. A blade making a shearing cut will not go through the thick sheet of fibrous, spongy, wet paper, but will clog unless the sheet also is moved to strain open a path for it, the crowding upon one side doing no harm if the other side is drawing away; and on the other hand a blade merely pressed up to the moving roll, and not having itself endwise motion, will not cut, but will stop the roll or strain the machinery in tearing off the sheet.

It is necessary to give the knife an endwise motion when it strikes the sheet, and a shearing cut in combination with the motion of the roll itself is effective for this purpose. In the apparatus illustrated, a long, flat knife is mounted to slide upon a fixed rest with a motion which, while keeping its straight edge parallel to the axis of the roll upon which the pulp sheet is forming, brings that edge to the surface of the roll, and at the same time carries it endwise in the direction of the length of the roll; and as it is desirable that the knife shall remain almost in contact with the surface of the roll after the sheet is cut until it is fully detached, namely, until the roll has made nearly a complete revolution, and should then be drawn back from that surface to allow the successive layers of pulp deposited to form the next sheet, and as doing this by hand confines the attendant, there is an automatic device for drawing it back slowly at first but faster than the pulp accumulates upon the roll, and to hold it back until a catch is released; and in order that the knife may deliver a sharp, effective stroke, there is a spring to be strained when the knife is in this way drawn back, and to be held by the catch until that is released. This may be released by the attendant, but an automatic device is also provided for pushing back this catch when the pulp sheet attains the proper thickness, and this, used with certain kinds of pulp, will make the machine almost independent of the workman, so that it will form and cut sheets of pulp or strawboard of uniform thickness and pile them to wait until they can be conveniently folded; and consequently several machines can be tended by one man.

Figure 1 is a plan view of the forming roll, knife and knife rest, shown in the plane in which the knife moves, the parts under the rest appearing where it is broken away, and by dotted lines. Fig. 2 shows the sliding rod partly flattened into a spring, by which the knife is drawn back after cutting. Fig. 3 illustrates the mechanism under the rest by means of which the thickening sheet of pulp upon the roll moves the lever which releases the catch and allows the knife to slide up. Fig. 4 is an end view of the forming roll, knife and knife rest, and Fig. 5 an end view of the knife, knife rest and mechanism by which the accumulating pulp upon the roll gives motion to the releasing lever.

a is the forming roll, receiving the web of pulp from the couch roll *p*, and winding it up into a thick sheet. This roll, *a*, carries on its extended gudgeon the coarse screw *b*, of which screw the thread is not cut as deep as the length of the tooth *o* of the catch, and therefore the point of this tooth, after coming to the end of the screw cylinder

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rides upon that end smoothly all the way round.

c is the knife sliding upon the flat top of the rest *h*, as guided by the links *d d'*, which move in arcs about fixed centres. One of these may be extended to form a handle.

g is a spring drawing the knife, when released, endwise and forward into contact with the roll.

e is a rod, under the knife rest, hinged by a pin (reaching it through a slot in the knife rest) to the link *d'* at *r*, guided by running through a staple at *m*, which stands down from the under side of the knife rest and having the part *f* flattened into a spring which carries the tooth or catch *o* at its end in position to be engaged by the screw *b*.

i is a lever underneath the rest, moving upon a stud at *s* projecting down from said rest, as a fulcrum, and carrying the slide *k* in which moves the small roller *j* in position to be pushed back by the thickening layer of pulp upon the roll. The position of this slide is made adjustable upon the lever *i* in order that it may be readily set for sheets of any desired thickness.

The machine illustrated is the three roll or vacuum wet machine, which has no felt, and of which the forming roll turns over toward the side where the sheets come off, but the device can be applied to other machines. In this machine the pulp is taken up by the mold cylinder and couched from that directly to the vacuum roll *p*, from which it passes immediately to the under side of the forming roll *a* and the web is wound upon that in successive layers, building up a thickening sheet. This sheet as it thickens presses back the roll *j* and swings the free end *l n* of the lever *i* upon its fulcrum *s*. This free end engaging the spring *f* is carried a distance several times the thickness of the forming sheet, and amply sufficient, whether adjusted for thick or thin sheets, to draw back and unhook the tooth *o*, and hold it free from the screw *b*, while the knife, thus released, is drawn by the spring *g* with a swift stroke up to and through the sheet of pulp upon the roll, the downward motion of this sheet, combining with the endwise and forward motion of the knife, aiding in cutting and separating the edges as cut.

The sheet cut in this way passes above the knife and is detached from the roll as it comes over. When the cut edge below the knife passes down past the roller *j*, that roller is free to swing up against the press roll, and the tension of the spring *f*, no longer held back by the point *n* of the releasing lever *i*, carries the tooth *o* between the threads of the screw *b*, and the motion of that screw begins to draw back the knife; but this motion of the knife is at first simply endwise, parallel to the surface of the roll, and for nearly a complete revolution its edge is close enough to scrape off any clinging pulp, but it begins to draw back in time to give the first layer going to form the new sheet upon the roll room to pass without touching that edge, and the succeeding turns carry the knife back more rapidly. The tooth or catch *o* follows up between the threads of the screw, and being longer than the depth of the groove, slides upon the smooth end of the screw cylinder until it is again released.

The curved path of the knife is determined by the swinging links *d d'*, but substantially the same motion may be given it by curved guides, which may either form part of the knife rest or be carried by the knife itself, and if carried by the knife may be at its ends, and slide in proper supports extending out from the standards in which the forming roll is mounted, in which case the knife rest may perhaps be dispensed with. What is essential is that the knife approaching the roll shall be at the same time moved endwise, while the sheet to be cut is also continuously moving at right angles to the plane of the knife. The movement of the sheet strains the fibres across the cutting edge and widens the cut as fast as made, so as to make room for the advancing blade, while the endwise motion of that blade prevents the fibres folding across the edge and clinging to it.

With most kinds of pulp, the edge of the sheet when cut clings to the knife, so that the sheet as it comes over turns completely, and brings its inside to the top upon the table which stands close behind the knife rest, this side up being best for folding, and as each is carried quite over in this way, successive sheets pile quite regularly.

With a modification of the releasing device the spring knife and the carrying screw may be applied to cutting paper or sheet metal in desired lengths from the forming machine. The knife may have sliding guides instead of the swinging links. A cam might replace the screw, though hardly with success, and the releasing device may be moved by the surface travel of the enlarging loaded forming roll instead of by its radial increase.

When the apparatus is applied to the wet machine, the releasing device may be omitted and the catch thrown off by hand, or both this and the screw and the knife may be moved by the handle of the link *d*.

Correspondence.

CHICAGO.

[FROM OUR REGULAR CORRESPONDENT.]

WESTERN OFFICE PAPER TRADE JOURNAL,
56 and 58 La Salle Street,
CHICAGO, May 15, 1895.

Already a slight change for the better has taken place in the general condition of the Chicago paper trade. That is, so far as a majority of the houses are concerned, for some are yet complaining of sluggishness. The opinion is quite extensively held that there can be no great improvement until fall, but the trade as a body are by no means so bearish as they were two weeks ago.

Several representative men say that April turned out much better than they had expected, and that May so far is running very fair. Direct representatives of mills are as a class in better spirits than any other men of the trade, some of them saying that they have to "hump themselves" in order to keep up with their orders. Some of the commission men are inclined to be blue, but the most of them seem to be busy and report very fair business. Most of the complaints come from the jobbers, but a majority of these, even, are in much better heart than at the time of my last letter to THE PAPER TRADE JOURNAL. Some of them, in fact, say that they have seen no difference in their trade either way for the last two or three months.

The anomalous condition of low prices in the face of shortness of water on one side of the country and disastrous floods on the other, with a consequently decreasing output of paper, is the one thing most complained of, and the one feature of the situation which is hardest to explain. All agree that there can be little, if any, left of the surplus which was on hand before the shortage in production began, and so about the only plausible solution of the problem offered is that the trade in general having been depressed and overborne for so long, has not yet recovered its tone quite far enough to insist upon better prices and make a hard enough fight to maintain them.

A gradual growth of independence—not to say aggressiveness—seems to be in progress, and this, together with the curtailment of production, undeniable for the present and more than probable for the future, must work the proper cure, in time.

The gallant fight made by the management of the Columbian Straw Paper Company for reorganization was in vain after all. The huge craft has gone by the board in spite of all efforts to save her, and there seems to be no course left now but for the general receiver, lately appointed in New Jersey, to go ahead and wind up the company's affairs.

I can say by authority that the proposed plan of reorganization which up to the first of May it was hoped would be successful was this: Three-fourths of the bondholders offered (provided all would come in) to contribute 25 per cent. of their holdings to pay off the floating indebtedness and also to cancel $60,000 of past due interest, besides the interest falling due on June 1, amounting to $30,000 more. The total amount of bonds outstanding being $1,000,000, 25 per cent. thereof would have yielded $250,000, and this added to the $90,000 interest would have brought the contribution of the bondholders up to $340,000; quite enough, it is stated, to have cleared the decks for future action.

In return for this course on the part of the bondholders it was asked that the prefered shareholders should contribute 10 per cent. of their holdings to furnish a new working capital, and that the holders of common stock should consent to a reduction of the total amount of said stock from $3,000,000 to $1,000,000; a move which, it is said, by enhancing the value of every share would have left each man's holdings about the same as if no such action had been taken.

Negotiations, as mentioned more than once in this correspondence, were in progress for some time. It is now said that these had gone far enough to establish a strong probability that all of the bondholders would have joined in the arrangement, but that the preferred shareholders declined to carry out the part assigned to them, some of them (a number sufficient to defeat the proposition) preferring to take their chances on whatever litigation might ensue.

The prospect now seems to be that the lawyers will get the greater part of all of the money which can be realized from the assets of the concern; the bondholders will get what is left, and the stockholders—preferred as well as common—will be wiped out.

So passes this great enterprise—the combination of so many mills under the name of the Columbia Straw Paper Company—which was conceived in the interest of better prices. It will be "every fellow for himself" henceforth, and "the deil take the hindmost." The war in straw wrapping paper will doubtless wage hotter than ever, and prices will be simply "nowhar." Sales are already reported at $15 per ton, delivered, a figure which competent judges say is below the cost of production. Whether all this will result in the formation of another "combine" remains to be seen.

As for the morality or the real usefulness of such organizations, those are matters for the comment of the editor rather than of the correspondent. Thus much can properly be said here, however, that the management of the Columbia was in the hands of some of the strongest and ablest men in the trade, acting, so far as has been shown, in a legitimate and businesslike manner. If they could not succeed in such an enterprise, who can?

Following upon the final collapse of the Columbia, the Commission Paper Company goes out of business. This was organized as a general selling agency to handle the product of the Columbia Company, and of such of the outside mills as had come to an understanding with it. The personnel of the Commission Company having been three parts Columbia to one part outside, its days of usefulness are ended, and it withdraws from the field.

In last week's issue of THE PAPER TRADE JOURNAL appears the card of Friend & Johnston, commission paper dealers, and the trade may expect to find the same card in THE JOURNAL's columns for the coming year. Mr. Friend having been identified for many years with the Friend & Fox Paper Company, and Mr. Johnston with the Middleton Paper Company, both will be recognized as old acquaintances by the trade at large, and especially by those who have had intercourse with the Miami Valley country.

These gentlemen embarked in business in this city a few months ago, and have already worked up a good trade. They desire to announce themselves as prepared to handle business on a commission basis for mills in any part of the country and in any kind of paper. A strong point made is that they sell to the jobbing trade only, having no wish to interfere with the jobbers' field by selling to their (the jobbers') customers.

Each member of the firm has many friends throughout the trade, and it is believed that either one or the other knows every jobber from Boston to the Pacific Coast. Occupying an honorable position between the producer and the distributor of one of the world's greatest commodities, it might redound to the interest of men of both classes to cultivate close business relations with the firm of Friend & Johnston.

H. H. Kohlsaat, the new proprietor of the *Times-Herald* and *Post*, has done a wise thing in removing the latter journal to the *Herald* building, where there is ample room for both.

The *Post* building will not go unoccupied. As soon as it is fully cleared of its former occupant, which will be within a few days, preparations will begin for the issue therefrom of a new morning daily paper to be called the *Chronicle*. A company of that name was incorporated last week, the leading spirits in the movement being H. W. Seymour and Martin J. Russell. Both of these gentlemen are thoroughly trained journalists of long experience, and both have much to do with the upbuilding of the Chicago *Herald* to the high point of success and prosperity which it attained in so few years. The following excerpt from a published interview with Mr. Seymour gives a comprehensive idea of the new enterprise:

"The first issue will be made June 1, if not before. The paper will be of either eight or twelve pages week days, and the size of the Sunday issue will depend on circumstances. The paper is going to be typographically different from any in Chicago, and every man on it will be a Chicago man. The best newspaper men in the country can be found right in Chicago, and I do not believe in going outside for them.

"No permanent arrangements have yet been made in the matter of a staff. Mr. Russell will take as much of the work on his shoulders as his other engagements will permit. He is probably one of the best known editorial writers in the country, and as such will have much to do with the editorial pages of the new paper. Harry G. Forker, who was my assistant on the *Herald*, will be managing editor. He has been connected with the *Herald* for seven years and leaves it to take this position.

"As to the backing of the paper, that is a private matter. The paper has a paid-up capital of $300,000, which is probably as much or more actual cash than any paper ever started with before in Chicago. The paper is absolutely free from any political organization and is purely a business enterprise. It will be essentially a sound money paper. It will have the United Press franchise and will sell for one cent, with a five cent Sunday edition."

Nothing new has transpired since my last letter in regard to the other new paper, the *Daily Enquirer*. Its initial issue was expected before this time, but the gentlemen connected with it have doubtless good reasons for the delay. If we are to have two new dailies instead of one—as seems to be "on the cards"—so much the better for the host of unemployed newspaper workers, and, which is of most interest to the readers of THE JOURNAL, so much the better for the paper trade.

Scott & O'Meara is the name of a new commission paper firm just formed and whose card will be found in another column of this paper.

In an interview with the writer a few days ago Mr. Scott said: "We want producers to know that we are in a position to handle goods in large quantities. Our long and extensive acquaintance with the trade enables us to 'size up' houses all over the country, both as to carrying capacity and financial standing, so as to know how to sell to them. It is a great point to know when not to oversell on the one hand and when not to be too modest in the amount of bills on the other. This knowledge we claim to have in an eminent degree, and can demonstrate the same by means of our individual transactions in the past. The largest buyers in the United States are among our customers."

It so happens that one of these gentlemen has in past years chiefly handled coarse papers and the other fine, the two together thus making a strong combination. Both,

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moreover, are largely known to the trade from Winnipeg to New Orleans, and from Portland to Portland. With all of these things in their favor their success seems assured.

The Wabash Paper Company, of Wabash, Ind., is putting in a stack of supercalenders, 52 inches wide, for its coating department, made by the Holyoke Machine Company. A new coating machine is also being added to the plant.

The Van Auken Steam Specialty Company, of this city, has just consummated a deal for manufacturing a packless valve which will come in mighty handy for steam users among the paper mills. It requires no packing at the stuffing box, leaks no water or steam, and needs no attention after having been attached to the pipe. The manufacturers claim for this device that there is nothing like it on the market. They have been testing it for nine months or more, and know that it is no experiment. It costs only a little more than other valves, and soon pays for itself by saving the cost of packing, to say nothing of the saving in time and labor.

Fred Irving Lake, the genial and energetic manager of the Western department of the New York and Pennsylvania Company, has got settled in his new suite of offices in the Western Union building, where he has everything "as fine as a fiddle." Notwithstanding the style of his new business home, however, Mr. Lake is not a bit "stuck up," but is just the same to his friends as he has always been. How pleasant that "same" is need not here be said. His friends know him, and new acquaintances will soon find out how good a fellow he is.

Speaking of friends and acquaintances, Mr. Lake requests me to say that he wants visiting members of the trade to regard his office as headquarters while in the city. A comfortable chair, a desk at which to write his letters if desired and a hearty welcome await every one who calls.

From about the 1st up to the 10th of the present month Chicago had some pretty hot weather. Everybody downtown sweltered and swore except one man, and that one was Geo. H. Taylor. Mr. Taylor is naturally a good deal of a salamander, and heat does not affect him except to make him jollier and happier than ever. Besides this, Mr. Taylor was so enchanted by his sojourn in the Hawaiian Islands a year ago that he has ever since sworn by the Great Horn Spoon that there is no part of the world equal to it; and, as last week's torrid temperature was, as he said, typical Honolulu weather, he was just in his element and was as happy as a clam at high tide.

W. C. Gillett returned a few days ago from his Western trip. Said trip was highly satisfactory in a business sense and was pleasant in every way, Mr. Gillett says, only for the hot weather. He, however, is a man whose weather feelers are about like those of the average citizen, so 'tis no wonder he qualified the pleasures of his tour as above.

Some weeks ago it was mentioned in this correspondence that J. C. Brocklebank had bought himself a handsome new residence at North Edgewater, one of our swell suburbs, for $15,000 (not $15,000,000, as a local contemporary unfortunately put it). Well, Mr. Brocklebank moved in about ten days ago with his family, his *Lares et Penates* and all his household belongings. From this time forth he "dwelleth under his own vine and fig tree," so to speak, and there are mighty few men in this universe with whom he would exchange places.

The traveling fraternity of the paper trade has been quite well represented here during the last week or two. The delegation from Massachusetts consisted of W. T. Barker, of W. T. Barker & Co., Boston; Major Bowker, of the Holyoke Envelope Company, and John McWhirter, of the Linden Paper Company, both of Holyoke; A. H. Hill, of the Springfield Envelope Company, Springfield, and Jas. Thompson, of the Whitcomb Envelope Company, Worcester. From Rhode Island came one, W. Stearn, of the Rhode Island Cardboard Company, Pawtucket. From Connecticut, one, Harry J. Wood, of the Plimpton Manufacturing Company, Hartford. From New York, J. K. Paulson, of Buckingham & Paulson, New York city, and G. S. Knowlton, of Knowlton Brothers, Watertown. From Ohio, A. B. Mudgett, of the Tytus-Gardner Paper and Manufacturing Company, and J. C. Jacoby, president of the Jacoby Paper Company, both of Middletown; D. B. Anderson, of the Eagle Paper Company, Hamilton, and J. L. Rubel, of the Mead Paper Company, Dayton; from Indiana, one, H. L. Beveridge, of the Beveridge Paper Company, Indianapolis; from Michigan, one, J. H. Whitney, of the Botsford Paper Company, Plainwell; from Wisconsin, Mr. Forsythe, of the Shattuck & Babcock Company, De Pere; William Gilbert, president of the Gilbert Paper Company; A. W. Paul, president of the Paul Paper Company; John Strange, president of the Strange Paper Company, and C. A. Babcock, of the Wisconsin River Paper and Pulp Company, all of Menasha; Wm. M. Van Nostwick and J. C. Armstrong, of Wm. M. and J. S. Van Nortwick, and Mr. Hattessly, of the Fox River Paper Company, all of Appleton, and George D. Dutton, treasurer of the National Envelope Company, Milwaukee. R. B. D.

MIAMI VALLEY.

[FROM OUR REGULAR CORRESPONDENT.]

DAYTON, Ohio, May 15, 1895.

A short time ago the weather practically controlled business, according to the statements of many who were in a position to know the significance of the truth. It always did seem passing strange that "Old Prob." should wield such a striking influence, and the more fortunate were inclined to think that the misfortunes of neighboring tradesmen had somewhat contracted their heretofore liberal ideas of active, aggressive business. Nevertheless it is a fact that the paper trade has been governed by weather conditions almost with the forcefulness of that characterizing the clothing trade.

The extreme change during the last few days prompts me to the above remark and to point out the singular fact that although the heat of summer may be suddenly transformed by a presto, change manipulation into the dead of winter, the effect on trade just now would be as inconsequential as a drop of rain to the mighty ocean.

Covering a broad field briefly, there appears to be no end to the present rush. Everybody and everybody's neighbor is busy, and the howl of the calamity-yelper, which once intimidated, now falls on idle breezes.

I happened to call on B. B. Thresher, of the Seybold Machine Works, this week, and was surprised in many ways. In the first place the personnel of the company's active force has been materially changed; not that this is an especially new feature, for previous mention of the fact was duly made upon reorganization; but the vim and vinegar and all-around thoroughness which is attending the efforts of the young men at the head of the concern gives a forcible illustration of the success of pluck and energy.

This company is more than directly associated with the paper trade, a great percentage of sales being recorded with paper makers, book concerns and paper box and specialty manufacturers. Its paper cutters, including the "Monarch," "Capital" and "Holyoke" are fast gaining in popularity. Upon the reorganization, Charles Seybold, an inventive genius, whose mechanical ingenuity has paved his path to fortune, is president. B. B. Thresher, a young branch off the sturdy Thresher oak, is secretary, and Lewis W. Gunckel, son of L. B. Gunckel, of the law firm of Gunckel, Rowe & Shuey, is treasurer, having charge of all finances. Mr. Thresher has been connected with the firm scarcely a year, but thoroughly demonstrated to me, while hastily inspecting the plant, that he has familiarized himself with the business.

The company has a capital of $100,000 and is backed strongly, the young men representing two of the best families in Dayton. The Seybold plant now covers almost 2 acres with the main factory, warehouses and offices, and it is evident that further improvement is impending. "We intend to erect a large building here," said Mr. Thresher, indicating a triangular strip of ground contiguous to the factory and bounded by the railroad. "Our plans are fast approaching completion and we anticipate a great convenience from the improvement. A side track for our exclusive use will also be added."

The Dayton Paper Novelty Company was notified this week of a material victory won in the suit of the National Box Company, of New York, against it in the Cincinnati courts. H. H. Laubauch, president of the company, explains that the suit is an ancient affair, that it has been hanging fire for an indefinite period and that the struggle is not yet over, inferring that the Court of Appeals would deal ultimately with the suit. "The National Box Company claimed that the defendant company infringed a patent on a box, and instituted proceedings several years ago." said Mr. Laubauch. "The personal liability has been ruled out, but there are several minor questions still pending. A similar suit was filed in New York."

All of the Nixons were clustered together in Dayton this week. Martin H., representing the Merrimac Chemical Company, Boston, was here, likewise Morris, of the Consolidated S. O. S. Bag Company, New York, and Frank, the Richmond manufacturer. Notwithstanding that it was a sort of a family reunion, all were attentive to business. The latter visited the Southern part of the valley and reported definite improvement all around. He states that in the Richmond (Ind.) mill of the Thomas Nixon Company many improvements of a notable character are in progress. Two new beaters are being placed in position, also a new engine, and it is possible that yet another beater will be added.

"I feel for those poor fellows in Wisconsin," remarked a well-known manufacturer, "if the Government hounds them on the water question and takes business-like steps. When I was there a year or so ago I actually thought that there was enough water in one county to fully equip the Miami Valley forever. Those mill men will think it an injustice if they are compelled to resort to steam under the dictation of the Government."

G. N. Bierce, of the Stilwell-Bierce & Smith-Vaile Company, and a national officer of the Y. M. C. A., attended the recent sessions at Springfield, Mass. After the various educational awards he found ineffable pleasure in wiring the Dayton institution that it had carried off over half of the sum total of prizes and honorable mentions. Mr. Bierce has been a strong supporter of the local institution since its existence, and when the Y. M. C. A. recently added 1,000 members during the brief period of two months he was among the most elated.

Osmond Vinning has taken the position of superintendent of the W. B. Oglesby Paper Company's mill at Middletown. He is a paper maker of long experience.

J. B. Pickles, of the firm of Pickles Brothers, wool dealers, Bradford, England, called on the F. Gray Company, Piqua, during the past week. The gentleman came to this valley direct from Bradford, and succeeded in taking a handsome order from the F. Gray Company for a large consignment of fancy wool, to be shipped monthly. Mr. Pickles will visit the Eastern and Canadian trade before returning to England.

Machine Tender Seymour, employed at the Tytus Mill, suffered the laceration of three fingers the other day.

The grand jury of Butler County has just returned indictments against C. F. Gunckel and J. M. Johnston, president and treasurer, respectively, of the defunct Middletown Paper Company. The charges embody those fully covered in THE PAPER TRADE JOURNAL recently, when Mr. Gunckel passed the crucial test and was exonerated. The action of the grand jury has occasioned no little surprise and comment. The principals do not fear the outcome, but it is probable that Mr. Johnston, a Chicago man, will be considerably inconvenienced.

Burglars forced an entrance into the Kemp Paper Company's establishment at Middletown the other night and made a dismal attempt to blow open the safe.

M. V.

GREAT BRITAIN.

[FROM OUR REGULAR CORRESPONDENT.]

LONDON OFFICE PAPER TRADE JOURNAL,
1 MITRE COURT, FLEET ST., E. C.,
LONDON, England, May 4, 1895.

Against the shut down of a small mill there is usually the aggrandizement of a big company to chronicle in support of the modern order of things. Fierce competition, especially from outside, seems to be gradually wiping out the small maker, whereas the large maker is just the boy who can successfully cope with it. At first glance Soper & Co., of King's Mill, Loudwater, seem very small people, with one machine of 48 inches only, but they were in the heart of the blotting paper district, and have made excellent "blots" since 1786. They boasted of many highest awards at exhibitions, and I can vouch for it that their blotting paper was a thoroughly good article. For all that they have shut down. When one door shuts in the paper trade, as I have said, another opens, and T. H. Saunders & Co. have now completed their Hawley Mill, near Dartford. It is true that this has only one machine of 54 inches, but it will make the highest class of loft dried account book papers and superfine printings. Messrs. Saunders are very big people indeed, and have three other mills containing fourteen vats, so that this is their début in the production of machine made paper.

The Bervik Aktie Bolag, one of the biggest chemical pulp companies in Sweden, is asking for $1,300,000 on the security of first debentures, to bear 4½ per cent. interest. The share capital of the company was $1,750,000 and $1,500,000 in 5 per cent. debentures. This was fully described and, since work began in 1888, debentures have been redeemed to the value of $315,000. The company is in a strong enough position to cancel the remaining debentures and replace them with bonds bearing a half per cent. less interest. I hear that the new debentures have been applied for several times over.

Once again the Employers' Liability Act! This time a Cornish laborer has obtained $500 from Samuel J. Polkinghorn, of the Kennal Vale Paper Mills Company, Cornwall, for the "probable loss" of his hand under very exceptional circumstances. Samuel Polkinghorn's resident manager is his brother, but as this gentleman has a flour mill of his own the cares of office are said to fall upon his nephew, who engaged the injured man. Part of his employment was to attend a grinding mill, which was originally intended for crushing corn or grain, but on this particular occasion it was utilized in attempting to grind small pieces of granite. The crusher consisted of a wooden box, containing two rollers revolving against each other. Fixed partly on the upper and partly on the lower floor, the powder fell through an orifice to the lower floor, after the pieces of granite had undergone the grinding process. The fly-wheel of the machine revolved through a slit in the floor. Granite was put into the box, and for a time all went well. The workman was sent below to collect the particles of powder and while thus engaged the machine was suddenly stopped and the fly-wheel, wrenched from the axle, fell through the slit in the floor upon the plaintiff's hand. Pretty nearly everything was denied by the defendants. They made out that the nephew of Mr. Polkinghorn was not the manager; that he had no right to engage men; that the man was not engaged; that he was not set to do the particular task which brought him to grief, and that the machine was intended for the purpose it was used for. The judge, however, found all of these points proved, and so the man got his full claim of $500.

One or two fires have occurred at paper mills lately, the most serious one being at Mugiemoss, on the Don near Aberdeen, owned by C. Davidson & Sons. This mill is very old, dating from the last century, and is beautifully situated. The fire took place in a building detached from the mill proper, which was entirely uninjured, but an extensive range used as a rag store was entirely destroyed and the damage done was estimated at nearly $12,000. However, it might have been much worse, as the finishing department full of valuable paper was close at hand. Another fire did a good deal of damage to Sweetapple's Paper Works, at Bootle, near Liverpool. Sweetapple's mills are in difficulties already and this loss might have added to them but for the fact that it is fully covered by insurance.

Pat with the remarks that I made in my last letter about the state of the Irish trade comes a complaint that the press of the North of Ireland will not support the only paper mill in Ulster. This belongs to the North of Ireland Paper Mills Company, Limited, of Milltown Mills, Ballyclare, Antrim, and it is also the largest mill in Ireland, with four machines on news. The Larne Board of Guardians has just expressed its disgust that the Ulster press does not support this mill. This will possibly not disturb the equanimity of the newspaper men, however, for even in Ireland things have not yet come to such a pass that a newspaper cannot choose its market for the purchase of paper.

James Brodie & Co., of Glasgow, inform me that they have got the order for the wire for the big machine which the Bertrams are making for the Clyde Paper Company. As they have to weave a wire of about 164 inches, and as James Brodie believes that the appetite for these big machines is growing, they are putting down plant which will weave up to 180 inch wire.

I think that prejudice against foreign paper in England is pretty well confined to the trades unions. For instance, if makers and wholesale stationers were very serious in the matter it would be hard for an agent to represent English and foreign mills at the same time, but the makers do not care what even their sole agent sells so long as it is out of the run of their sorts, and as long as they can make money wholesale stationers do not discriminate between native products and foreign made goods. George C. Brightling, one of the smartest agents in London, has taken up the sole English sale of the United Paper Mill Company's production, and this is a company which controls seven out of the nine mills in Denmark. This does not look like prejudice on the part of Joseph Arnold, Wansborough & Worrall and R. & J. Couper, all of whom Mr. Brightling has very ably represented for some time.

The Union of Paper Mill Workers, however, looks at things in a different way. It has just had its annual meeting, and the only important thing that occurred was a speech by Mr. Ross pointing out the attitude of the workers as regards foreign made paper. Mr. Ross said that the tenders for Government contracts were open to middlemen, and in consequence a very large amount of foreign paper was used by the Government "in violation of the resolution of the House of Commons in re sweating and subcontracting." The meeting unanimously agreed "that representations be made to the Government that in consequence of the depressed condition of the paper trade and want of employment prevailing they should place the whole of the Government contracts for paper with such manufacturing houses as shall guarantee compliance to the House of Commons instructions as to the condition of work, manufacture, wages paid, &c., and also confine their contracts to British manufacturers." Now as a matter of fact the Government has again and again stated that very little foreign paper is used,

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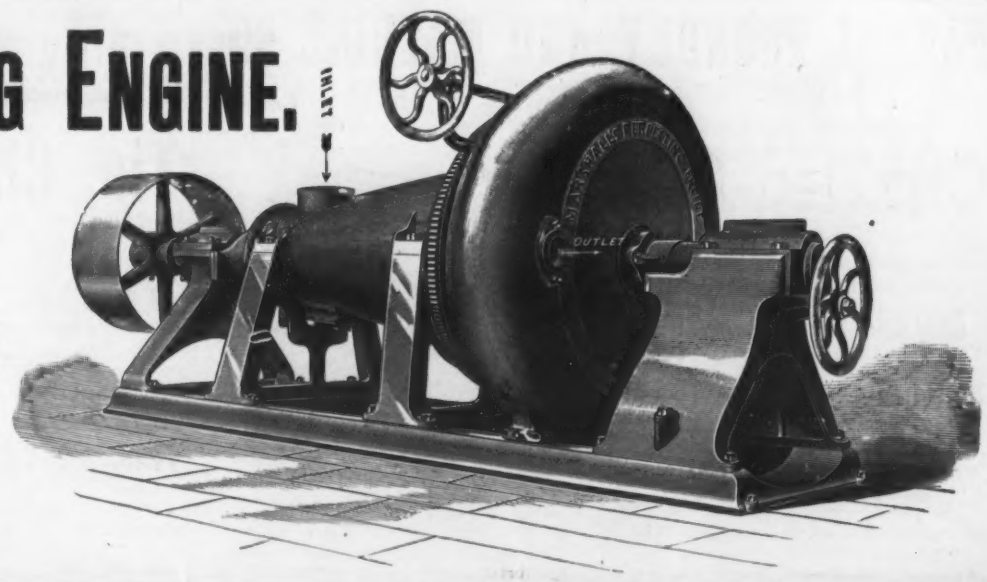

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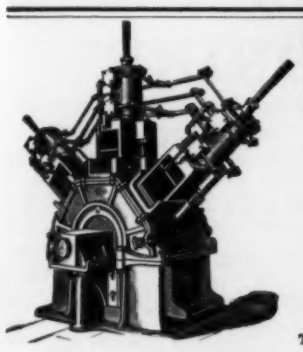
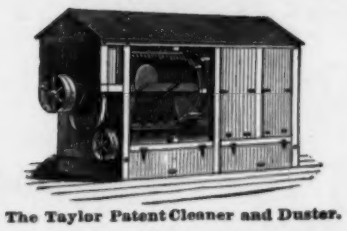
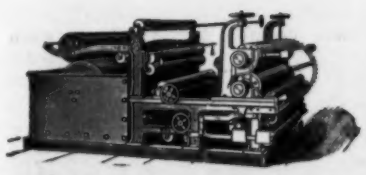
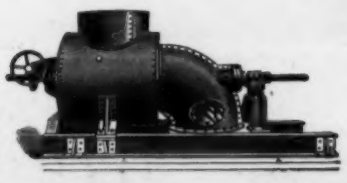




The Taylor Patent Cleaner and Duster.





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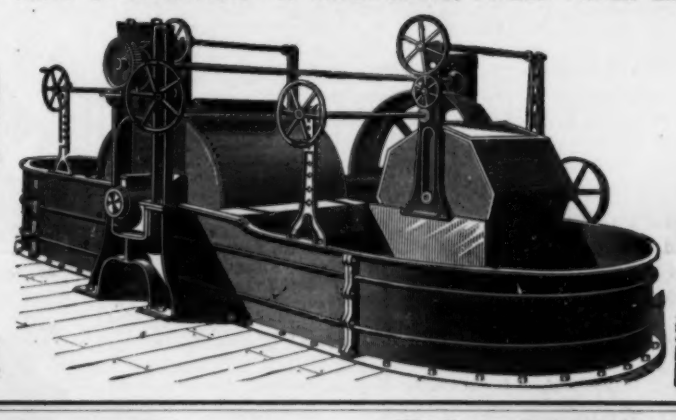

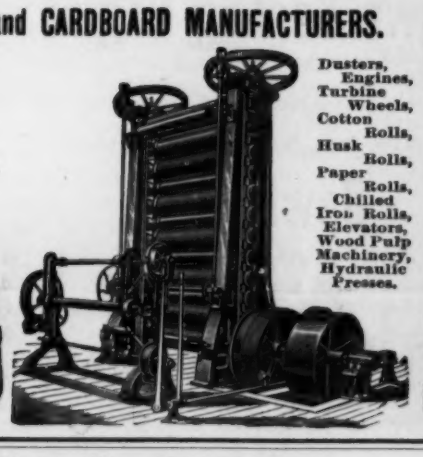

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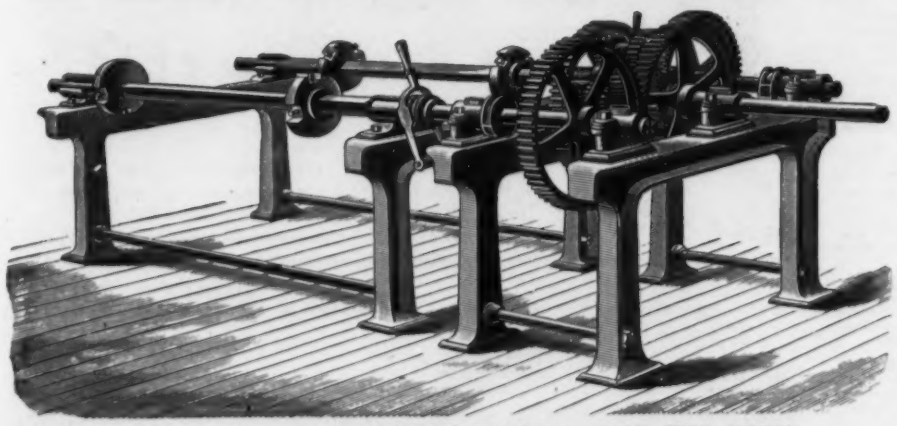

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That every ***New England Pulp Grinder*** ever made or sold in this country has been designed, built, and first sold by me; and I am sole owner of the right to use the name "New England" as applied to a pulp grinder, as the United States Patent Office records will show, and no other person is or has ever been interested with me in the manufacture of Pulp Machinery.

All the rights and interest of the Scott & Roberts Company and the New England Pulp Machine Company which were organized for the purpose of selling my pulp machinery were acquired by me more than four years ago, since which time many changes and improvements have been made in the New England Pulp Grinder.

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I have on hand ***six Pulp Grinders,*** three pockets, to grind wood 17 inches long; and ***eight Grinders,*** heavy pattern, to grind wood 24 inches long; also ***Barkers*** and ***Splitters.***

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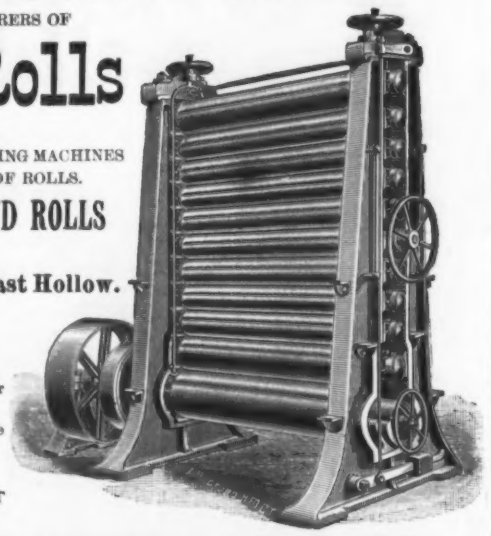

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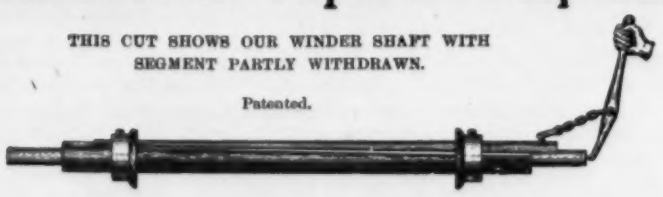

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CONTENTS.

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General Chemistry.—With a short account of each element and its principal compounds; source, manufacture and properties of such compounds as are used in paper making.

PART II.

CHAPTER I.—**Cellulose.** Its chemical and physical properties, chemical relations and reactions.

CHAPTER II.—**Fibres.** Cellulose in its relations to the plant; the vegetable cell; the cell wall; changes which occur in the cell wall; lignin or incrusting matter; its chemical properties; characteristic markings of the cell wall in different fibres; characteristic cells other than fibres in different pulps. Classification of fibres: 1. Seed hairs; cotton, chemical and physical character of fibre, dimensions, analyses. 2. Bast fibres, as linen, jute, hemp, manilla, rhea, ramie, agave, sisal, sciansonia, &c.; occurrence in plant, separation of filaments; character, size, distinguishing features of filaments and ultimate fibres, analyses and chemical properties. 3. Fibres and other cells from whole stems and leaves, as straw, esparto, bamboo; measurements and characteristics of fibres, yields, analyses; characteristic cells found with fibres. 4. Wood fibres; growth of wood; cambium layer; spring and autumn wood; sap and heart wood; resins; bark and knots; analyses of woods; specific gravities; ash; fuel values; occurrence and character of all woods used for pulp making.

CHAPTER III.—**Processes for Isolating Cellulose.** Rag boiling; special treatments for various fibres, as jute, straw, esparto; review of miscellaneous processes for treating wood; the water process, aqua regia, &c.; the soda process, history; preparation of liquors, boiling, washing, recovery, sources of loss; analyses of chemicals and liquors; the sulphite process, history; general principles; the different systems; liquor apparatus; preparation and analyses of liquors; digesters; linings; boiling; subsequent treatment of pulp; waste liquors; recovery. The sulphide and sulphate processes.

CHAPTER IV.—**Bleaching.** General principles; bleaching agents; bleaching powder; deterioration; analyses; preparation of bleach liquors; use in chests, engines, drainers; hot bleaching; acid bleaching; use of alum; chlorination and oxidation of fibre; washing stock; antichlors; loss in bleaching; ozone bleach; hydrogen peroxide; permanganate; sulphurous acid; special processes for various fibres.

CHAPTER V.—**Sizing and Loading.** Resin; preparation of size; free alkali; free rosin; alum; analyses of alums; free acid; basic alums; sizing power; resinate of alumina; moss; casein; wax; starch; animal sizing; preparation and use; drying; loading; analyses of clays, agalite, pearl hardening, &c.; use; retention; ash; combined water; effect of alum and starch.

CHAPTER VI.—**Coloring.** Mineral colors; vegetable and animal colors; aniline colors; chemical properties; effect of alum and traces of bleach or alkali in different colors; distinguishing tests; effect of different waters.

CHAPTER VII.—**Water and Water Supply.** Character and analyses of different waters; ground waters; surface waters; river water; artesian well water; hard and soft waters; boiler scale; effect of waters on size and colors; various systems of filtration; use of alum; softening water; self purification of streams; natural filtration; effect of storage; vegetation in ponds; crenothrix; consumption of bleach by waters.

CHAPTER VIII.—**Chemical Analysis.** Description of apparatus and methods for testing the purity and strength of all paper making chemicals, colors, &c.; common impurities and adulterants given; full description of methods of analysis for sulphite and soda liquors, bleach solution, alums, &c.

CHAPTER IX.—**Paper Testing.** Full account of the latest German methods for testing and classifying papers; determination of ash; kind of sizing; amount of sizing; free acid and chlorides; strength; proportion of ground wood; kind and condition of fibres.

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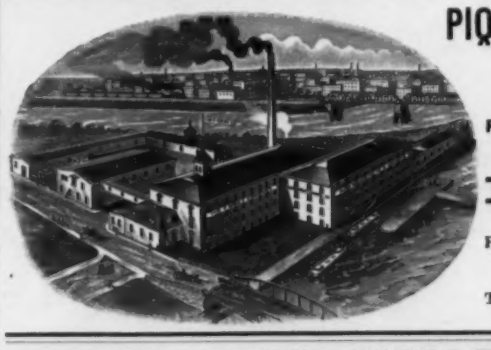

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and it is hard to see how the Union can bring its purchase under the condemnation of "sweating." Of course by way of moral effect it is a sweet and proper thing for any Government to purchase home made goods; but too little foreign paper is used by our rulers to make a fuss over.

There is a touching American poem in the interior of which are a dude, a barber and an owl. It has a pleasing and weird refrain, "And the barber went on shaving," and most of your readers know it. The perpetual motion of that barber in spite of the incessant conversation of the dude is something like the faithfully constant drop in the prices of pulp and esparto. Everybody interested in their sale keeps saying: "Prices have reached bed rock and they cannot get lower," and anon: 'It is impossible to produce at less than present prices, ergo they must rise"—and yet prices keep on falling. It is said that the Scandinavian pulp men no longer see any safety in combining merely among themselves. They want to spread the combination to Germany and Austria, and two delegates have been sent over to those countries to bring the little affair off. Up to now the Germans, at any rate, have not seen any special beauty in the idea, but the state of the market may possibly drive them into combination this time of asking.

Opinion seems to be a good deal divided about the Paper Exchange. It seems to me to be merely a private company which is going to combine the paper business with pawnbroking. Why on earth it is called an exchange goodness only knows! When I first heard of it I pictured a hall hired or built somewhere for the purpose of a meeting place for paper men, and this would be a capital idea, but so far as I can make out there is nothing of this about the new scheme. Anybody at all known in the paper trade is out of the list of directors entirely. One is a printer, another is a "merchant" (sweetly vague!), and the third is George Crocker, whose not very large paper business is to be the nucleus of the concern. This gentleman seems to have had a pretty good idea in hitting upon the name the "Paper Exchange, Limited," and there is a considerable amount of *toupet* in the title, too. If he had called it George Crocker & Co., Limited, it would never have been boomed by the press, and it remains to be seen whether it will make any great headway as it is.

Business with makers and agents, at any rate, seems to be brightening up a little. Possibly it is the low price of material which is giving the maker a cheerful countenance; but he smiles more freely just at present than for some time back. The imports of pulp via the ship canal have been phenom——; but there, darn the ship canal anyway! It is as hard to keep out as a militia man when the canteen opens! ALFA.

FOX RIVER VALLEY.

[FROM OUR REGULAR CORRESPONDENT.]

APPLETON, Wis., May 14, 1895.

The water power situation in this valley has assumed a very serious phase. According to the agreement made by the manufacturers with Capt. Carl Palfrey, as detailed in my last letter, the manufacturers were to be allowed to use 70,000 cubic feet of water per minute for power purposes, but this amount was subject to the ratification of the War Department, which has charge of the navigation on this river. The trouble now is that the agreement has not been ratified by the Government, and last Saturday Captain Palfrey received word from Secretary Lamont that the height of water in the lake and river must be preserved at the crest of the dams, the order to go into effect yesterday. As a result of this order no water to speak of for power purposes has been drawn from the river yesterday and to-day. A half dozen wheels were running yesterday in order to work up some stock on hand and keep the same from spoiling, but other than this not a wheel has been turning for the past two days. The manufacturers feel, with a great deal of reason, that the action of the Government in the matter has been reprehensible because more notice was not given of the intention to close operations here. Some of the mills are left in the middle of their orders with no way to complete them. At least ten days' notice should have been given, and the manufacturers think that it would have been no more than right in view of the circumstances to have allowed three months, in order that they might have prepared themselves with engines. A meeting of manufacturers has been called and is now in session at the office of the Kimberly & Clark Company, in Neenah, for the purpose of considering the situation and if possible determining upon some course of action to be unitedly taken in the premises. It is felt that the hardship created here is not thoroughly understood at Washington, and that if the matter were to be put before the Department in the proper light some modification of the order might be made to allow the mills to use at least a reduced quantity of water until the level is raised to the required point, or at least until some specified time in the future.

It must not be understood from the foregoing that this valley is wholly crippled in the matter of making paper, although it is true that at present the output is very much diminished. Most of the mills at Neenah and Menasha are provided with steam power, which will enable them to make almost or quite their possible production, and in Appleton the mills of the Telulah Paper Company, the Patten Paper Company and one of the mills of the Fox River Paper Company have steam engines capable of running their mills. There are also a few steam engines at Kaukauna, but Kaukauna is better situated for water than the other towns on the river, on account of the fact that the dam in that city is in a bad condition and spills enough water through it to give the mills quite a benefit, and they will be able to run after a fashion even without steam.

One great trouble with those who have engines is found in the fact that they have always expected to have some water power to use, so that in putting in their engines they have left some parts of the machinery, such as washers, Jordans or a pump or two, unconnected to the steam power. A great deal of hustling is now being done to remedy these defects.

For a time yesterday it was thought that the city would be left in darkness so far as the Edison Light Company was concerned, and that the electric street cars would be unable to run, as water power is used in both cases. The cars have been running, however, during the day, but not in the evening, when the power is used for the incandescent lights. The arc street lights were not going last night and will not be used hereafter.

Mention was made in my last letter of the proposed terminal road, for the use of all of the railroads in this part of the country to enable them to reach the mills along the entire river without breaking bulk, and the importance of the scheme to the paper making community was pointed out. The company was organized last week, and articles of incorporation were filed at Madison, and in connection with this road another company was organized which is destined to be of much moment to the paper industry here. The new corporation is called the American Timber Company. The stockholders in both companies are practically identical, and the two will be closely allied. The purpose of the railway company has been stated in these columns, and it remains merely to speak of the Timber Company. John J. MacIntyre, Jos. Taylor and Geo. E. Green appear as subscribers to the bulk of the stock in both companies. These parties have for years been interested in the paper business and in timber lands from which spruce wood is supplied to Eastern mills, and have during the past winter secured additional large tracts of timber on Lake Superior, and are preparing to extend their trade to the Fox River Valley. One of the principal objects of the Terminal Railway will be to handle this wood traffic, and the development of the anthracite coal delivery in this market is one of the contemplated features. John J. MacIntyre, who has been the prime mover in the project, is the secretary and manager of the Pettebone-Cataract Paper Company, of Niagara Falls; Jos. Taylor is manager of the Michigan Peninsular Car Company, of Detroit, and Hon. Geo. E. Green is the present mayor of the city of Binghamton, N. Y., and controls the output of the Berwind White Coal Mining Company.

Officers of the Valley Terminal Railway Company were chosen as follows: President, John J. MacIntyre; vice-president, George E. Green; secretary, Walter B. Pelton; treasurer, Joseph Taylor; attorney, Abel L. Allen.

At the meeting of the American Timber Company the same stockholders were present, and the following directors were chosen: W. B. Pelton, John M. Baer, George E. Green, A. S. Osgood, Frank J. Bissing, Joseph Taylor, John J. MacIntyre.

Officers of the Timber Company were elected as follows: President, Walter B. Pelton; vice-president, George E. Green; secretary, A. S. Osgood; treasurer, John J. MacIntyre.

The Timber Company will bring its wood from the Canadian side of Lake Superior to Green Bay by raft, the method so successfully used for two years past by the Pulp Wood Supply Company. Their docks at Green Bay will be located on the east side, below East River, on the old channel, where there is 30 feet of water, allowing for the landing of the deepest draught lake steamers. These docks will be of larger size and more modern and convenient construction than anything at present existing at that port, and will be built with especial reference to handling pulp wood and coal, as well as miscellaneous freight.

J. A. Outterson and wife, of Potsdam, N. Y., spent several days in this valley last week. Mr. Outterson is the man who has in charge the building of the new paper and pulp mill in the Adirondacks at Newton Falls, and his object here was to look into the sulphite business in this valley. To your correspondent he gave some interesting particulars concerning the new plant which have not heretofore appeared in print. Mr. Outterson says that Newton Falls is located on the Oswegatchie River, about 45 miles north of Carthage, N. Y. The company owns there 16,000 acres of virgin forest, which is estimated to cut 15 cords to the acre, and the mills will be located almost in the centre of this tract. The mills will use about 1,400 horse power of water, and the paper department will be equipped with two machines, 110 and 112 inches in width, one Fourdrinier and one four cylinder machine. The product will be No. 1 manilla. There will be three digesters and four pulp grinders, and the output of sulphite fibre will be 15 tons and of ground wood 10 tons. The country is so wild that only a few months ago Mr. Outterson had to be guided into it, but the New York Central Railroad is now building a track into the district. The foundations of the mills have now been completed, and it is expected that the establishment will be ready to run about November 1 next. It is thought that this plant will be able to make paper cheaper than it can be produced anywhere else in the country.

The shipping season at the pulp wood docks of the Pulp Wood Supply Company, at Long Tail Point, opened yesterday, and the first pulp wood train to this valley arrived in Appleton to-day. It was expected that the shipments would be at the rate of about 500 cords a day, but on account of the low water it will be possible to ship only at the rate of about 400 cords a day. There are at present about 18,000 cords of wood in the boom, and it is expected that 20,000 cords more will be brought in during the season.

The stockholders in the Consolidated Water Power Company, on the Wisconsin River, met last week and selected the following named board of directors: Geo. E. Hoskinson, Ben Hooper, F. MacKinnon, Nels Johnson and C. A. Spencer. The question of the building of the proposed big dam this summer will not be settled until the necessary levels have been taken and the estimates secured as to the cost of the structure. It seems probable that the work will be undertaken the coming season, as has been anticipated.

A portion of the flume of the mill of the Wisconsin River Paper and Pulp Company, near Stevens Point, went out last week. The damage was not very serious and the mill will be little delayed in its work.

Charles Oberly, who has been superintendent of the Wisconsin River Paper and Pulp Company, has resigned his position and will engage in business in Neenah. His place has been filled by L. A. Parks, of Port Edwards.

Thomas E. Nash, of the Nekoosa Paper Company, visited Appleton yesterday.

C. P. Riggs, of this city, has gone to Park Falls, where he is engaged about the building of the new mill in course of construction there.

C. H. Dobilinski, of Philadelphia, was in the valley last week.

David L. and John G. Luke, of the Piedmont Pulp Company, are in town looking over the status of the pulp business here.

FOX RIVER.

HOLYOKE.

[FROM OUR REGULAR CORRESPONDENT.]

HOLYOKE, Mass., May 15, 1895.

The state of trade can be summed up in a very few words this week.

It is neither very good nor particularly bad, but as one manufacturer puts it, "Tolerable."

The movement of finished goods does not increase from week to week, as was looked for a few weeks ago, but remains unchanged.

The mills are all running along as usual, filling what orders come to hand and trusting that an increase will come before long.

Prices have not changed materially since last week, and cutting is not reported to any extent.

The stock market remains quiet, and sales are limited to immediate needs.

The Riverside Paper Company's No. 2 mill is now in good running order and is producing about 10 tons of fine paper. The product will probably be increased to 15 tons before long. The mill is equipped with two 100 inch machines, and one of these is being run regularly. The company uses ten mills power and has five steam engines. There are four 1,200 pound beating engines, two Marshall perfecting engines and sixteen calenders. The machinery is all of the latest make and the mills are both in good shape for business.

The government contract for official envelopes has been awarded to the Morgan Envelope Company, of Springfield, and Plimpton Manufacturing Company, of Hartford, Conn, calls for 75,000,000 envelopes, and the contract is good for one year from July 1.

The Chemical Paper Company reports the following condition of its affairs: Fixed capital, $250,000; capital paid in, $250,000. Assets — Buildings, $380,000; cash and debts receivable, $108,994; manufactures and merchandise, $94,812; trustee account, $60,300; total, $644,106. Liabilities — Capital stock, $250,000; debts, $292,836; profit and loss, $101,270; total, $644,106.

The Nonotuck Paper Company at its last annual meeting made this report: Fixed capital, $155,000; capital paid in, $155,000. Assets—Land, water power, buildings and machinery, $325,000; cash and debts receivable, $127,958; manufactures and merchandise, $131,543; miscellaneous, $1,000; total, $585,502. Liabilities—Capital stock, $155,000; debts, $275,502; profit and loss and reserve for depreciation, $155,000; total, $585,502.

Thomas Dowd, a young man of sixteen, employed by the Holyoke Lithograph Company, in the Whitcomb Building, while riding on the elevator yesterday had one foot badly crushed by being caught between the platform and wall. John Peterson, an employee of the Valley Paper Company, while carrying a barrel full of stock from one room to another, stumbled and the load fell on his leg, breaking several bones.

Two banks held their annual meetings this week—the People's and Mechanics'. Among the officers of the former are James Ramage, J. E. Clark, F. H. Chamberlain, H. J. Frink, D. H. Newton, G. A. Clark, J. K. Judd, Moses Newton and E. P. Clark. Among the other bank's officers are E. C. Taft, C. B. Prescott, E. P. Bagg, A. W. Esleeck, George F. Fowler, J. S. McElwain, J. S. Webber and R. P. Crafts.

Wesley P. Spears, for a number of years a foreman with the American Pad and Paper Company, has assumed charge of the Riverside Paper Company's No. 1 mill finishing department.

G. L. Bosworth & Co. have been awarded the contract by the Fairfield Paper Company for rebuilding the stone dam at Fairfield.

Dwight Bradburn will not be able to assume control of the church building, which he recently bought, for a year, as the White Paper Box Company has a lease of its quarters for the next twelve months. The company offered to move for a bonus of $2,000, but Mr. Bradburn could not quite see it in that light.

I heard this noon that a well-known local paper stock dealer woke up this morning and found himself $150 richer, as he held a a lucky card on "Hornpipe," the winning horse in Wednesday's Brooklyn handicap.

The annual meeting of the Newton Paper Company will be held on Monday afternoon. H.

BOSTON.

[FROM OUR REGULAR CORRESPONDENT.]

EASTERN OFFICE PAPER TRADE JOURNAL,
67 FEDERAL STREET,
BOSTON, May 16, 1895.

The improvement noted in business from time to time during the past few months is not so marked in the paper trade as in some other lines of business.

City jobbers are doing a certain volume of trade right along, some firms being at times quite busy, but the paper business as a whole must take on much larger proportions before trade can be quoted as satisfactory.

Now that the summer season is near at hand, when the call for paper is usually limited, dealers are not inclined to order very liberally, and the manufacturers feel this policy to such an extent that they are only running on a hand to mouth basis.

Mills not so closely dependent upon current orders, such as news mills under big contracts, are run under more favorable conditions; but miscellaneous orders for news, it is said, are not as plentiful as hoped for.

Reports from paper stock importers are little varied in tone, as business in paper stock continues very limited.

Lowell Emerson, president of the Rhode Island Card Board Company, of Pawtucket, R. I., was seen last week, and during a short talk Mr. Emerson stated that business with his company since the first of the year had been very good, sales for April being far ahead of any corresponding month for years, and the outlook for future business, he added, was encouraging. This statement seems to be borne out by the fact that the company is improving and increasing its plant. One part of its building, now two stories, is being raised to four stories high, and an extra wing is being built. These additions will give 10,000 feet more of space, which will be utilized for coating, pasting and storage. The company made improvements in its plant in 1892, which at the time seemed sufficient to meet all require-

(*Continued on page 471.*)

AGALITE PULP

As now manufactured under our improved processes has no competitor as a filler, either for News or

. Fine
. Book
. Papers.

FOR proof of this we refer to the most successful makers of

Book and **News**

in this country and in Europe. Our

AGALITE FILLER

GIVES the brightest color and most beautiful finish in all classes of paper, as it contains **no moisture,** and its retention in papers being nearly double that of other fillers, it is by far the **cheapest.**

International Pulp Co.

TIMES BUILDING,
NEW YORK.

New Inventions—LXXIX.

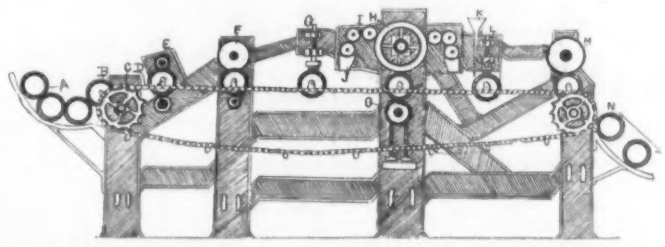
[WRITTEN FOR THE PAPER TRADE JOURNAL.]

By Geo. Damon Rice.

A number of officials connected with large canning interests were interviewed recently, and although each favored the use of tin or other metal in the manufacture of cans for the preservation of fruits and vegetables, it was generally admitted that under certain conditions the effect of the metallic substance upon the contents of the can is more or less detrimental. Millions of cans of all sizes are annually utilized by the canned goods factories of the country, and in most cases the cans are made on practically the same lines. Solder is employed to unite the edges, and the aim is to make an air-tight compartment in which the contents of the can will be preserved intact for years. As long as this is so the tin can is a suitable reservoir in which to keep the most delicate of preserves; unfortunately, however, an occasional defect occurs in the solder, or there may be a flaw in the shape of a pinhole in the tin, resulting in the admittance of air, and shortly in the decaying or tainting of the goods inside. If the goods decay no harm follows as a rule, as detection is easy and the contents of the can may be thrown away. The records show, however, that at intervals the leak in the can has been only sufficient to taint the contents, and the purchaser unconsciously partaking of the same is poisoned.

It was long ago discovered that canned fruit is not so apt to mould if a piece of writing paper, cut to fit the can, is laid directly on the fruit. So also is it known that fruit can stand longer in a non-metallic vessel and not decompose. These facts added to other elements, one of which is that a can produced from paper is lighter than tin; another that paper cans can be made without the side seam, thus reducing liability of leakage; another that paper is cheaper than metal, besides more elastic and less liable to affect the fruits or vegetables with which it comes in contact, make paper a factor in can manufacture, and its application to practical use on a large scale has received the attention of inventors to a considerable extent during the past year or two, with the result that at present sufficient advancement has been made to assure the practicability of the scheme, and this description is therefore given.

In the preparation of pulp for making fruit cans white pine is used, for this is best for the purpose, being pure and not affecting the fruits. The preparatory machinery consists of a beating engine for disintegrating the pulp, a compressor air pump and an engine for pumping the fluid. The soft pulp produced is first placed on fine netting, and the moisture is driven out by compressed air, the mesh holding the fibre while permitting the water to escape.



Machine for Preparing Paper Fruit Cans for the Market.

The pulp while yet in a soft state is gathered upon a large roller in sheets about 8x10 feet square until it is about a quarter of an inch thick. It is then cut from the roller and carried upon a canvas carrier to a drying chamber nearly 100 feet long, through which it slowly passes, requiring about ten minutes to make the trip. When the sheet arrives at the other end it is partly dry and can be handled readily, and is next placed between pressing rollers, then shaped into cans pretty much as the ordinary tin cans are, the edges being connected by a special glutinous matter. Then the cans are finished off in the machine illustrated in the cut. This is one way, but it makes a seam.

Another mode, adopted later and in which no seam on the side of the can is made, consists of taking the soft pulp direct from the wire netting and molding it into cylindrical form about the length of a dozen cans, and keeping it on the hollow tubes until ready for cutting and heading. In the diagram an end view of several tubes on which the pulp is cast may be seen, marked A. An endless chain, C, runs the whole length of the machine, and is always in motion, and is furnished with automatic grippers and releasers, which engage with the tubes. The tube B is first to be taken, and is carried by the chain to D, where it is passed between the pressing and smoothing rollers E. Next the tube with its surfacing of pulp is conveyed to F, a cylinder supplied with circular cutters which cut the pulp surfacing into the right lengths for cans. Then the cans receive a brushing at G, and pass to the printing cylinder H, where colored lettering is printed on each, the types being set in the cylinder H, and the ink in J, which is distributed by rollers I.

A bed pressure for the cans during impression from the type is obtained by the bed roller O. Some of the line of type can be bronzed from the bronze in the reservoir K, which is delivered to the cans, the surplus being removed by the brush L. A final pressing and polishing off is derived from the felt covered roller M, after which the tube drops down and out of the machine as indicated by the arrow N, carrying with it the pressed, shaped, cut, printed, bronzed and polished cans. The ends are next made from the same pulp, but are produced flat, cut into circular form to fit the ends of the cans, adjusted, cemented, and the can is done. The cans are white when finished, and neat appearing. By a new chemical process the cans can be given the appearance of china.

Another operation renders the cans capable of resisting the action of acids or other destructive agents. A process of glazing is also being tried, which if successful will qualify the cans to take the place of much glassware in the preserved goods line. Patent compounds are employed to make the cans waterproof, also oil-proof. They will not expand or contract in varying temperatures, nor do they warp, peel, crack or twist. They are strong, and can be handled roughly during shipment without breaking. These are some of the factors which make the paper can superior. From a health standpoint there is considerable advantage, as no solder or other substance is used to chemically create that which sometimes proves to be a dangerous poison. Paper is pure and healthful.

When an engineer takes charge of an engine with which he is not familiar, he should not screw up the nuts on the piston rod gland until he knows what kind of packing is in the box, for some metallic packings are wedge shaped, and the rod may easily be injured by screwing the nuts up too tight.

G. RAU, IMPORTER, TIMES BUILDING, NEW YORK.
Sulphite and Soda Pulps.
Linen and Cotton Rags.

HUGHES BROTHERS,
Nos. 62, 64 & 66 NORTH SECOND STREET, BROOKLYN, E. D., NEW YORK,
(Three Blocks from Grand Street Ferry, Brooklyn Side.)
IMPORTERS AND PACKERS OF PAPER STOCK,
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SODA·ASH·BLEACHING·POWDER·SALT CAKE
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PURE AMMONIA-SODA ALKALI
AND
HIGH STRENGTH BLEACHING POWDER
ARE THE BEST FOR PAPER MAKERS' USE.
Consignments regularly received at all Ports.
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BOWMAN, THOMPSON & CO., Ltd., NORTHWICH, ENGLAND.

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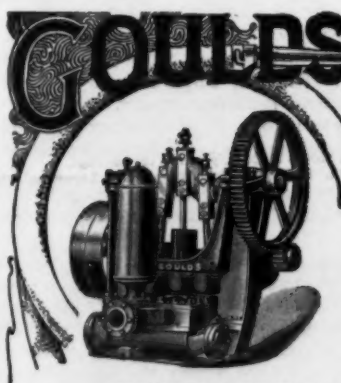
The Power Boiler Feed Pump
Is acknowledged the most economical type Boiler Feeder in use.
Goulds Triplex Power Pump is the most efficient of this class.
Send for new Catalogue. "Efficient Power Pumps and Applications."
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Manufacturers of PUMPS and HYDRAULIC MACHINERY,
Works & Main Offices: Seneca Falls, N. Y., U. S. A. Warerooms: 16 Murray St., New York City.
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E. O. NELSON MFG. CO., Eighth & St. Charles Streets, St. Louis, Mo. L. M. BATES, 221 Vine Street, Philadelphia, Pa.

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AJAX ANTI-ACID METAL,
FOR THE RESISTANCE OF ACIDS AND ALKALIES,
ESPECIALLY ADAPTED FOR
Digesters, Sulphite Machinery, &c., &c. We sell the Metal in INGOTS, furnish CASTINGS, any size as per patterns, and COCKS, VALVES and FITTINGS of every description.
THE AJAX METAL CO., INCORPORATED, PHILADELPHIA, U. S. A.
WE INVITE CORRESPONDENCE.

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Is all right, so say thousands of Engineers. We have positively refused many times to cheapen the quality to compete with other makers. It is better to-day than when first put on the market twenty years ago. It is cheaper than many other kinds because it does not weigh as much per yard. It is honestly made, and will do all that any other Packing will do, and has advantages that no other has.
JENKINS BROS.,
New York. Chicago. Philadelphia. Boston.

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Paper Mill Supplies.
FAIRBANKS STANDARD SCALES,
VULCANIZED ASBESTOS PACKED COCKS,
VULCANIZED ASBESTOS DISC GLOBE VALVES,
VULCANIZED ASBESTOS SEAT GATE VALVES,
VULCANIZED ASBESTOS DISC BRONZE "Y" VALVES,
ALUMINUM BRONZE GATE VALVES.
A SPECIALTY MADE OF HIGH CLASS
Aluminum Bronze Work for Sulphite Plants.
CATALOGUES ON APPLICATION.
THE FAIRBANKS CO.,
NEW YORK, ALBANY, BOSTON, BUFFALO, PHILADELPHIA, BALTIMORE, PITTSBURGH, NEW ORLEANS, LONDON, ENGLAND.

CHARLES S. BARTON, President and Treasurer. GEORGE B. WITTER, Secretary.
RICE, BARTON & FALES MACHINE AND IRON CO.
(At Old Stand of Rice, Barton & Co.),
WORCESTER, MASS.,
—MANUFACTURERS OF—
PAPER MACHINERY,
HILL'S PATENT SQUARE AND DIAGONAL CUTTERS,
Iron and Brass Castings, Chilled Iron and Paper Calender Rolls, Rag Engines, Rag Cutters, Steam Pressure Regulators, &c.
HYDRAULIC PRESSES, FROM 5 TO 14 INCH PISTON.

ALUM!
THE MERRIMAC POROUS ALUM is unsurpassed for purity and good results.
All other grades of Alum for paper makers' use and for filtering purposes. Address
MERRIMAC CHEMICAL CO., 13 Pearl Street, Boston.

AMERICAN STAVE & COOPERAGE CO.,
Manufacturers of Cedar, Cypress, Pine or Oak
Round and Square Tanks
OF ANY SHAPE OR CAPACITY.
OFFICES:
66 Broad St., NEW YORK. 6 Drayton St., SAVANNAH. 160 State St., BOSTON.
Illustrated Catalogue upon application.

Imports and Exports.

IMPORTS AT NEW YORK.

FOR THE WEEK ENDED MAY 10, 1895.

An. Colors..	874	$58,337	Paper	711	$28,378
Alum	—	—	Steel Pens..	4	151
Alum's Cake	—	—	Stationery .	8	385
Bl. Powders	438	6,686	SlatePencils	127	532
Soda Ash...	3,158	9,916	Clay	—	3,918
Soda, Caus.	928	10,765	J'te B'ts,&c.	5,471	9,881
Soda, Sal....	—	—	P.Hangings	25	812
Soda, Hypo.	—	—	Pap'r Stock	4,537	38,587
Ultramarine	6	469	Terra Alba.	—	—
Books.....	315	32,735	Waste.....	27	5,362
Newspapers	326	10,235	Wood Pulp	596	8,289
Engravings.	102	10.811			
Ink.....	350	1,400			
Lead Pencils	29	3,441	Totals...	18,032	231,110

Imports General Merchandise for the week ended May 10, 1895..... $6,925,185

IMPORTS OF PAPER STOCK AT NEW YORK.

FROM JANUARY 1 TO MAY 15, 1895.

Whence Imported.	*Rags.*	*Old Paper.*	*Chemical Fibre.*	*Ground Wood.*	*Manilla Stock.*
	Bales.	Bales.	Tons.	Tons.	Bales.
Antwerp.....	2,072	5	767	....	8,264
Bordeaux.....	181	....	....	....	850
Bremen.....	821	725	2	....	2,321
Bristol.....	....	...	....	....	1,733
Buenos Ayres.	520	....	....	....	....
Calcutta.....	....	...	....	....	5,471
Cen. America.	180	....	....	....	....
Christiania....	....	....	85	....	....
Copenhagen..	...	....	105	....	1,098
Dundee.....	....	....	1	....	613
Fiume.....	....	....	34	....	....
Genoa.....	629	....	....	....	2,311
Ghent.....	90	40	....	....	395
Glasgow.....	123	53	....	....	49
Hamburg.....	5,143	174	783	....	844
Havre.....	....	....	....	....	682
Hiogo.....	6,544	....	....	....	....
Hull.....	2,367	40	1,676	....	3,643
Kobe.....	10,578	....	....	....	....
Leghorn.....	938	....	....	....	185
Liverpool.....	594	195	....	....	7,959
London.....	2,449	1,136	....	....	2,904
Marseilles....	155	....	30	....	715
Newcastle....	....	221	....	....	2,167
Rosario.....	....	....	....	....	98
Rotterdam....	1,901	....	67	....	900
Stettin.....	401	....	90	....	555
Trieste.....	123	....	45	....	....

NEW YORK IMPORTS.

FROM MAY 8 TO MAY 15, 1895.

Paper Stock.

H. O. Bateman, Waesland, Antwerp, 42 tons chemical fibre.
James Pirnie, Lepanto, Antwerp, 840 bs. bagging.
R. H. Overton & Son, by same, 50 bs. bagging.
Castle & Gottheil, by same, 157 bs. manilas.
R. H. Overton & Son, Critic, Dundee, 139 bs. manilas.
James Pirnie, State of California, Glasgow, 25 bs. papers.
F. Salomon & Co., Palatia, Hamburg, 139 bs. rags, 111 bs. manillas.
S. J. Rose, by same, 39 bs. rags.
E. Hatton & Co., by same, 38 bs. rags.
F. Bertuch & Co., Hindoo, Hull, 15 tons chemical fibre.
S. Goldman, by same, 48 tons chemical fibre.
Train, Smith & Co., by same, 34 bs. rags, 192 bs. bagging.
J. W. Mason & Co., by same, 1,074 bs. manillas.
J. W. Mason & Co., Bovic, Liverpool, 147 bs. manillas.
James Pirnie, by same, 582 bs. bagging.
A. Ireland, by same, 48 bs. papers.
J. W. Mason & Co. Nomadic, Liverpool, 161 bs. manillas.
F. Salomon & Co., by same, 31 bs. bagging.
J. W. Mason & Co., Spain, London, 452 bs. manillas.
J. Libmann & Co., by same, 90 bs. rags.
Castle & Gottheil, by same, 68 bs. papers.
James Pirnie, by same, 96 bs. bagging.
Train, Smith & Co., by same, 26 bs. rags.
Train, Smith & Co., Berlin, London, 24 bs. rags.
James Pirnie, Massachusetts, London, 52 bs. bagging.
W. O. Davey & Son, Mobile, London, 111 bs. manillas.
Burgass & Co., Crovier, Rosario, 98 bs. bagging.
Train, Smith & Co., Spaarndam, Rotterdam, 99 bs. bagging.
Darmstadt & Scott, by same, 22 bs. rags.
R. H. Overton & Son, by same, 6 bs. rags.

Paper.

A. E. Bulkley, Nomadic, Liverpool, 27 cs. hangings.
Beattie Frey, by same, 3 cs. hangings.
Cassell Printing Company, State of California, Glasgow, 6 cs.
W. Campbell & Co., by same, 235 rolls hangings.
S. G. McConnell, by same, 13 cs. hangings.
R. C. Thebaut, by same, 10 cs. hangings.
J. Campbell & Co., Waesland, Antwerp, 4 cs.
Kupfer Brothers, by same, 10 cs.
L. De Jonge & Co., by same, 20 cs.
R. Sulzberger, by same, 15 cs.
L. C. Wagner, by same, 6 cs.
E. G. Soltmann, by same, 3 cs.
C. S. Abbott, by same, 23 cs.
The Photo Material Company, by same, 14 cs.
Saloman & Newman, Saale, Bremen, 56 cs.
J. C. Druckleib, La Touraine, Havre, 10 cs.
Thorn & Walter, by same, 9 cs. hangings.
F. Beck & Co., by same, 4 cs. hangings.
Warren, Fuller & Co., by same, 1 cs. hangings.
Dennison Manufacturing Company, Lucania, Liverpool, 5 bs.
E. G. Soltmann, by same, 7 bs.
E. Kimpton, by same, 3 cs.
E. J. Riley, Britannic, Liverpool, 2 cs.
L. De Jonge & Co., Spaarndam, Rotterdam, 45 cs.
Dingelstedt & Co., by same, 3 cs.
Kupfer Brothers, by same, 13 cs.
L. De Jonge & Co., Markamannia, Hamburg, 18 cs.
H. Schutte, Lepanto, Antwerp, 3 cs.
Steglich & Baesse, by same, 17 cs.
R. F. Downing & Co., Severns, Antwerp, 23 cs.
Henry Lindenmeyr & Sons, by same, 15 cs.
D. S. Walton & Co., by same, 17 cs.
H. Schutte, by same, 7 cs.
C. S. Abbott, Friesland, Antwerp, 23 cs.
The Photo Material Company, by same, 16 cs.
O. H. Peck, by same, 10 cs.
L. DeJonge & Co., by same, 3 cs.
Kupfer Brothers, by same, 19 cs.
L. C. Wagner, by same, 5 cs.
G. W. Sheldon & Co., by same, 25 cs.
Dingelstedt & Co., by same, 11 cs.
O. F. Melvin, by same, 1 cs.
W. Seyd, by same, 13 cs.
Hugo Reisinger, by same, 1 cs.
W. H. S. Lloyd, Berlin, London, 1 cs. hangings.

BOSTON IMPORTS.

FROM MAY 9 TO MAY 15, 1895, INCLUSIVE.

Paper, &c.

White, Son & Co., Sprott, Antwerp, 7 cs. paper.
Order, by same, 6 cs. paper.
W. A. Nosworthy, Scythia, Liverpool, 5 cs. paper.
Wm. Guild & Co., by same, 6 bs. periodicals.
S. F. Wood Music Company, by same, 1 cs. printed music.
Little, Brown & Co., by same, 3 cs. maps.
Carter, Rice & Co., Ottoman, Liverpool, 6 cs. paper.
Dennison Manufacturing Company, Norseman, Liverpool, 73 cs. tissue paper.
E. Fischer, Storm King, Antwerp, 10 cs. paper.
Ginn & Co., Greenbrier, London, 1 cs. paper.
W. A. Nosworthy, by same, 63 cs. paper.
A. P. Schmidt & Co., Corona, Hamburg, 3 cs. printed music.
J. F. Bumstead, Philadelphia, Liverpool, 4 cs. paper hangings.

Paper Stock.

Train, Smith & Co., Greenbrier, London, 172 bs. waste paper, 168 bs. flax waste.
Wheelwright Paper Company, by same, 163 bs. waste paper.
Horace Dutton & Co., by same, 42 bs. waste paper, 180 bs. flax waste.
Crocker, Burbank & Co., by same, 122 bs. waste paper.
Train, Smith & Co., Storm King, Antwerp, 173 bs. rags, 180 bs. manillas, 167 bs. flax waste.
C. A. Cheney, by same, 82 bs. manillas, 191 bs. flax waste.
W. F. Corne, by same, 13 bs. rags.
Horace Dutton & Co., by same, 54 bs. rags, 614 bs. flax waste.
Castle & Gottheil, by same, 47 bs. waste paper.
Geo. W. Millar, by same, 111 bs. manillas.
Crocker, Burbank & Co., by same, 255 bs. waste paper.
J. B. Moors & Co., by same, 139 bs. rags.
Train, Smith & Co., Norseman, Liverpool, 94 bs. waste paper.
C. A. Cheney, by same, 210 bs. and 23 coils manillas.
Horace Dutton & Co., by same, 150 bs. waste paper, 22 bs. and 63 coils manilas.
Horace Dutton & Co., Ottoman, Liverpool, 50 bs. rags.
Horace Dutton & Co., Mentmore, London, 285 bs. rags.
J. B. Moors & Co., by same, 15 bs. rags.

Wood Fibre.

R. Helwig, Mentmore, London, 540 bs.

Sizing.

Train, Smith & Co., Norseman, Liverpool, 356 bags.
C. A. Cheney, by same, 106 bags.
E. W. McClintock, Scythia, Liverpool, 72 bags.
Thomas Groom & Co., by same, 80 bags.
C. A. Cheney, Storm King, Antwerp, 46 bags.

Bleaching Powder.

Mason, Chapin & Co., Storm King, Antwerp, 70 cks.
Jerome Marble & Co., by same, 60 cks.
P. W. Sheldon & Co., by same, 26 cks.
J. L. & D. S. Riker, Ottoman, Liverpool, 171 cks.
J. L. & D. S. Riker, Norseman, Liverpool, 268 cks.
Bowman, Thompson & Co., Philadelphian, Liverpool, 141 cks.

Caustic Soda.

Bowman, Thompson & Co., Philadelphian, Liverpool, 100 drums.
Edward Hill's Son & Co , by same, 100 drums.

Soda Ash.

Warren & Co., Ottoman, Liverpool, 36 cks. and 200 bags.
Warren & Co., Norseman, Liverpool, 112 cks.
Stone & Downer, by same, 20 cks.
John D. Lewis, Philadelphian, Liverpool, 24 cks.
Bowman, Thompson & Co., by same, 49 cks.
Wing & Evans, by same, 1,300 bags.

Soda Crystals.

Warren & Co., Ottoman, Liverpool, 140 bbls.

Crude Sulphur.

Linder & Meyer, Philadelphian, Liverpool, 2,001 bags.

Felts.

S. G. Train, Philadelphian, Liverpool, 6 bs.

PHILADELPHIA IMPORTS.

FOR THE WEEK ENDED MAY 11, 1895.

Paper Stock.

Order, Corean, Liverpool, 61 bs. old bagging.

Soda Ash.

Brown Brothers & Co., Kensington, Liverpool, 667 bags and 85 cks.
Pennsylvania Salt Manufacturing Company, Corean, Liverpool, 200 bags.

Caustic Soda.

E. Hill's Son & Co., Kensington, Liverpool, 50 drums.
Same, Corean, Liverpool, 270 drums.

Bleaching Powder.

Order, Corean, Liverpool, 108 cks.
J. L. & D. S. Riker, by same, 49 cks.

Salt Cake.

Brown Brothers & Co., Kensington, Liverpool, 56 cks.

China Clay.

J. B. Moors & Co., Corean, Liverpool, 106 cks.

EXPORTS of Paper, &c., from New York for the Week Ended May 14, 1895.

BOOKS, to Beyrout, 2 bxs.; British Australasia, 8 pkgs.; China, 2 cs.; British West Indies, 47 cs.; Central America, 21 cs.; Genoa, 1 pkg.; Gothenburg, 7 cs.; Japan, 20 cs.; London, 17 cs.; Liverpool, 28 cs.; Malta, 1 cs.; Southampton, 6 cs.; Venezuela, 21 cs.; British Australasia, 315 pkgs.

PAPER, to Brazil, 60 pkgs.; British Honduras, 31 pkgs ; British possessions in Africa, 6 cs.; British West Indies, 143 pkgs.; Central America, 94 pkgs.; China, 1 cs.; Ecuador, 2 cs.; Copenhagen, 1 cs.; Dutch West Indies, 8 pkgs.; Danish West Indies, 89 pkgs.; Hong Kong, 1 cs.; Malta, 23 pkgs.; New Zealand, 11 cs.; Philippine Islands, 1 cs.; Porto Rico, 622 pkgs.; San Domingo, 23 pkgs.; Colombia, 98 pkgs.; Venezuela, 9 pkgs.; Cuba, 78 pkgs.; London, 213 pkgs.

STATIONERY, to Brazil, 18 pkgs.; British Honduras, 2 cs.; China, 1 cs.; British West Indies, 11 pkgs.; Central America, 13 cs.; Cuba, 11 cs.; Constantinople, 2 cs.; Copenhagen, 1 cs.; Dutch West Indies, 2 pkgs.; Ecuador, 1 cs.; Hayti, 1 cs.; Hamburg, 3 cs.; Japan, 86 cs.; London, 35 cs.; Liverpool, 4 cs ; Malta, 2 cs.; New Zealand, 3 cs.; Porto Rico, 9 cs.; Rotterdam, 5 cs.; Southampton, 2 cs.; Colombia, 6 cs.; Venezuela, 9 cs.

SANDPAPER, to Brazil, 8 pkgs.; British Australasia, 1 cs.; Cuba, 1 cs.; British West Indies, 2 bdls.; New Zealand, 3 pkgs.; Olten, 2 cs.; Porto Rico, 1 bdl.; Rotterdam, 8 bdls.

TWINE, to Brazil, 27 pkgs ; British West Indies, 2 pkgs.; China, 4 bbls.; Dutch West Indies, 1 pkg.; Japan, 2 bbls.; Odessa, 277 bags ; Porto Rico, 4 bs.; Colombia, 3 bs.; Venezuela, 48 bs.

WALL PAPER, to Central America, 4 cs.; Japan, 1 cs.; Malta, 4 pkgs.

TAGS, cases, to British Australasia, 2 ; Bremen, 1.

CARDS, cases, to Dutch West Indies, 2.

PAPER TUBES, case, to Bolton, 1.

LABELS, case, to Brazil, 1.

AGGREGATES AND VALUES.

Paper, reams.....	—	—
Paper, pkgs.....	1,873	$8,873
Paper, cases.....	38	838
Books, cases.....	181	16,386
Stationery, cases.....	223	14,643
Rosin, bbls.....	2,976	11,294
Totals.....	5,291	$52,034

Exports General Merchandise for the week ended May 14, 1895..... $4,612,452

PRESSES. Hand Power. Steam Power. Knuckle Joint. All Kinds. For Baling and Packing purposes. Illustrated Catalogue.
RYTHER MFG. CO., Watertown, N. Y., U. S. A.

IMPROVED MACHINES FOR MAKING SQUARE PAPER BAGS.
By our PATENT methods of obtaining slack paper, severing bag lengths and applying paste, we are enabled to make perfect bags at a speed not attained by any other machine on the market. For full information and prices address
The Diamond Paper Bag Co.,
WILMINGTON, DEL., U. S. A.

TRAIN, SMITH & CO.,
IMPORTERS OF AND DEALERS IN
—ALL DESCRIPTIONS OF—
Paper Makers' Supplies,
24 FEDERAL STREET, BOSTON.
BRANCH OFFICES: 140 NASSAU STREET, NEW YORK. 14, 16, 18 & 20 ST. MARY AXE, E. C., LONDON. EDMUND ST. CHAMBERS, LIVERPOOL.

WM. J. CORBETT & CO.,
WHOLESALE DEALERS IN AND PACKERS OF
Woolen Rags and Paper Makers' Supplies,
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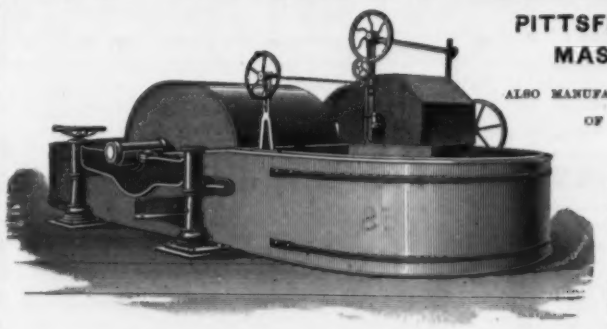
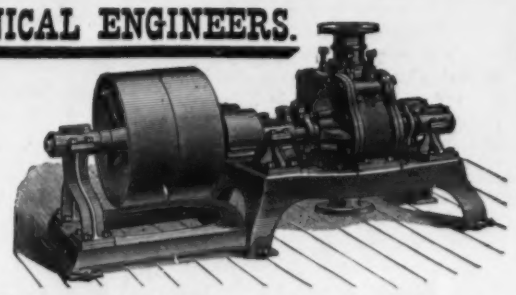
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NEW YORK: SATURDAY, MAY 18, 1895.

THE device illustrated and described on the first page of this issue of THE PAPER TRADE JOURNAL is designed for severing the sheet of straw or pulp board from the roll on which it is built up. There is a long and straight knife parallel with and supported and guided into light contact with the roll, a spring being so connected as to draw this knife endwise in its swing toward the roll and other mechanism to move it in the opposing direction, means also being provided to adapt the play of the apparatus to the thickening sheet.

AN English contemporary remarks that "quite two-thirds of the newspapers and weekly publications of the country"—*i. e.*, the United Kingdom—"appear on either Continental or American made paper." We of course cannot complain of a policy which admits our product to a market which consents to the sacrifice of its home industries; but why the manufacturers of the United Kingdom should meekly bow their heads and be subservient to an economic theory, destructive in its influences, we cannot understand, except that, having committed themselves to a dogma, our friends "hate mightily" to reverse their judgment, even though it shall be to their benefit.

THE proposition to take contiguous portions of Michigan, Wisconsin and Minnesota and make a new State seems to be receiving serious attention. There appears to be nothing against such a partition, save dislike on the part of the several States to diminish their territory, while on the other hand there is much to favor it, especially unity of interest. The new State, to which it is proposed to give the name "Superior," would certainly be one of the richest in the Union, and its wealth would be mainly in its copper and iron mines. It is claimed that conflicting legislation injures these great industries, and for that reason it is thought better to bring them all together under one State Government. The proposed new State has a water front of nearly 500 miles, and is the gateway for the trade and commerce of the entire Northwest.

AMONG the signs of the times which point to improvement in industrial conditions is the recent announcement of the Carnegie Company that on June 1 it will advance the wages of its employees, 15,000 in number, 10 per cent. The Vesuvius Iron Works have also made an average increase of 15 per cent. in the pay of their help. In the case of the first named concern it is stated that the promise of the future seems to warrant the advance, although the existing contract with the employees does not call for it. Such action evinces the relief which the industrial centres of the country experience in the absence of disturbing conditions which have heretofore influenced trade.

IT has been notable that laws relating to the conduct of business in the State of New York by foreign corporations have not been properly observed or enforced. The following notification from the Secretary of State is, therefore, timely: "Under the provisions of the General Corporation law, sections 15 and 16, as amended in 1892, foreign stock corporations, other than banking and insurance companies, which are governed by other laws, are prohibited from transacting business within the State of New York, until they have filed certain papers in the office of the Secretary of State and received a certificate or license from that official, authorizing them to carry on business in New York State. Until such license has been issued by the Secretary of State, such corporation cannot sue in the courts of this State or make enforcible contracts here." It has been too frequently the practice of concerns wishing to building up a connection to establish agencies, set up branch houses, and even build and maintain factories without taking the trouble to inquire whether there are any laws to be complied with. Secretary Palmer's notice has had the effect of stirring up these easy going people, who are now clamoring for licenses and complaining because matters move so slowly, fearing, no doubt, the effect on creditors of the knowledge that non-compliance with the law makes contracts void.

AMERICAN residents of South Africa are talking up a plan for holding an exhibition of American products in one of the principal towns of Cape Colony in the latter part of 1896. The scheme does not, as yet, seem to have taken definite form, but the features under discussion comprehend the erection of a permanent building to be called the "American Palace," where representative displays of American products may be continually on view in somewhat the same manner as the British Colonies are represented in the Imperial Institute, London. In addition to this there would be a number of temporary structures for the accommodation of various classes of goods and machinery, and, in fact, provision for everything usually found at such exhibitions. The American Consul at Cape Colony approves of the scheme, and it has found such favor among American merchants in South Africa that a sum sufficient to meet the initial expense of the undertaking has been guaranteed. African trade is more a matter of future hope than present reality, but doubtless it is destined to be one of the great outlets of production for which manufacturing nations will contend. Such a scheme as that suggested, carried out on an honest and liberal scale, could hardly fail of being advantageous to those who participate in it, and it would afford, probably, an excellent opportunity for our manufacturers of paper and paper products to place their goods before South African buyers in a favorable light.

THE work in connection with the "Cotton States and International Exposition," to be held during the coming autumn at Atlanta, Ga., is being pushed with energy, and from what can be gathered from the reports of the various organized efforts co-operating to secure success the undertaking bids fair to take a high rank among its predecessors in the exposition world. Starting in, when the project was first launched, to thoroughly exploit the resources of the South, the scheme has broadened by degrees to take in a goodly portion of the Union and some at least of the European nations, so that the international features will be at least equal to those of a purely local character. The plan of the exposition is very comprehensive, the South being desirous of bringing as many interests together on the occasion as is possible, and thereby invite attention to herself and her resources. Undoubtedly all of the Northern States will occupy space; the South offers good markets, and although she is "hustling" for commercial independence nowadays, she has no idea of disputing with Northern energy and capital. How much space European States will occupy is a question, but that there will be a fair representation is already assured. The opportunity seems to be excellent for paper makers, not only as a chance to exhibit their products, but as an occasion which might be turned to good account in investigating the resources of the South along the line of their own special productions. The idea that in some parts of the South exceptional opportunities are awaiting the man and capital necessary for utilizing them has long been entertained by THE PAPER TRADE JOURNAL. There are a great many water powers going to waste, and many which have been improved are capable of affording double and in many instances quadruple the power they now produce. There are large tracts of virgin forest, and a great many of the Southern forest trees are soft, fibrous woods, well adapted to the production of pulp. Besides these there are many fibre yielding plants and shrubs which now receive no attention, but would be cultivated if a market was furnished the producers. Much waste material, cotton, sugar cane, rice straw, &c., is also waiting to be turned to useful account, and lastly, the South is growing, not only in a commercial sense, but in intelligence and energy, all of which insures a growing market for the products of paper mills. The people of the South are showing much energy and pluck in their efforts to develop their region and bring its resources to public notice. Organizations for the development of local areas are scattered all over the South, and are doing good work with commendable intelligence and zeal. Such expositions as that forthcoming at Atlanta and those at Nashville next year and at Baltimore in 1897 have a distinct value in fostering the newly awakened spirit of enterprise and productive energy.

Watermarks.

BY DANDY.

The Saturday half-holiday signs are out through the trade, and both employers and employees are now enjoying their freedom on Saturday afternoons.

The Philadelphia trade has decided the matter as a unit, and will close at 1 o'clock on Saturdays from May 1 to October 1, and at 5 o'clock on week days.

A member of the New York paper trade who lives in the City of Churches has been writing to the papers complaining that a man who bought a lot near his place of residence and who threatened to build a stable wanted to sell the lot to him at $5,000 advance. In the letter the writer says: "I have bought a house on the street, and want to keep it free from stables." That is a laudable ambition. It is not a necessity to have a box stall in one's parlor, and besides the horse might have trouble getting up and down the front stoop.

There have been some pretty hard things said of Chicago at odd times, but there comes a clergyman of the "Windy City" who has figured out that it costs $445 to save the average Chicago sinner. When it comes to a real bad man, the statistician was evidently frightened at the figures, for he does not give them, but a newspaper says that among the things necessary to get the high class sinner into the narrow path is a $5,000 soprano, a $3,000 tenor and a $10,000 minister. The average cost is probably reduced by the solid goodness which prevails to such an extent in the paper trade.

This is rather rough on the "knights of the grip" who sell cordage:

"Where did you get that cigar?" demanded the boss barber, severely.

"From the traveling man, sir," replied the journeyman on the seventh chair, apologetically.

"What is he traveling for—a rope walk?"

'Tis said and 'tis sad that some of the trade are having a wrestling match with the Public Printer, and that there are now some rejected lots of paper at Washington. With the low prices which were bid in some instances, some one ought to be stuck, and "Uncle Sam" ought not to be the one.

He had been under the doctor's care for some time, and finally the M. D. said "Go to Europe."

"How can I?" asked the simple hearted paper manufacturer; "you have taken all of my money for fees and medicine." The argument admitted of no answer.

Business in very many lines of trade has revived very decidedly and the list of places where wages have been raised is long and interesting. The paper trade should take courage, for while paper is probably the last article to be affected by the upward tendency, it "gets there just the same."

There is a general feeling that far better times are ahead, and there are many paper makers who say that already they are feeling an increased call for goods.

Trade Talks.

W. W. Page, New York—I can say at the outset that the condition of the paper trade is better. A better feeling exists not only in the city, but the publishers outside, who have omitted publishing very largely for the past year, are starting in with new books. That fact alone helps to make the trade better, and what helps us helps the whole paper trade. Another fact is that if they are not buying they are making inquiries, and that also helps. The general condition of everything and the prospects that the crops are going to be large are good signs. There is no question that we are going to produce an enormous crop this year all over this country. While the paper dealers here are not having many more orders, they say, yet it is unquestionably a fact that they (the publishers) are making inquiries, and from this the conclusion is to be drawn that they themselves must be feeling the improvement, or they would not make them. I don't think that anybody needs to feel blue for the balance of the year. It may not be much, but there is going to be a gradual increase in the volume of business. Some things have been somewhat backward; it has been hard work to get money, particularly from printers, but with almost everyone else the feeling is good. Prices, however, are the great drawback. They are too low altogether. We cannot get much advance. All that can be done is to try to get it. That is where the whole healthfulness of trade comes in; when the manufacturer can realize a profit that lets him out and makes him happy.

J. R. Graham, of Woolworth & Graham, New York—The state of business is I think apparent to everybody. It is nothing new. It is what the whole trade has had to endure. It has been a sort of purgatorial experience. Times seem to be very bad, and I cannot quite account for the condition of business, or rather for the slow improvement in the paper trade in view of a good deal of activity and improvement in other lines of business. As to what the trouble in the paper trade is that is a matter of speculation largely; that is to say, what reason I would give would be largely a matter of speculation. We can trace, or try to trace, back the difficulty to one cause or another. I think that it is chiefly due to overproduction—that is the primary cause. When business was very active the tendency was to make more than the country would take; to manufacture more material than could be consumed. The result was that when business fell away in all lines, as it did a year and a half or two years ago, the paper trade, on account of the intimate relations which it bears to nearly all other lines of business, was among the first to feel the effect of the over production. That was followed naturally by continuously lower prices, due to the general desire on the part of the manufacturers to keep their wheels turning. The demand has improved and the outlook now seems to be better in that direction, and I hope that better prices will come with the improved demand. I do not know that the present condition of things can be attributed by me to other causes than those I have already given. Some lay it to the recent tariff legislation and the financial agitation, but as I said before, I consider over production to have been the chief and primary cause of our trouble. Now that the condition exists and that there is an over production, the remedy must be applied. It is simple—there is only one remedy. It meets both the disease and the cause of it. The production of paper must be curtailed or lessened. The foreign trade helps out some We export a great deal of paper and the foreign demand is growing. We were the first to send paper abroad in large quantities, but I will talk with you about that at some future time. We are now talking about business stagnation in the United States. The tendency in this country—in fact in all countries, I think, but perhaps in this country more than in any other—is for manufacturing enterprises to carry on their business so that the product will be in excess of the wants of consumers. The tendency has been always to manufacture more than the country would take, no matter whether trade was good or bad. The business condition has not been confined altogether to this country, but it has been felt all over the world, and I think that all business history shows that there are times of depression which are followed by times of prosperity and that this last period of depression has continued longer perhaps than usual. Judging from this fact, I should consider it natural that there should be a change for the better. The opinion of business men seems to be that we are now in a time of improvement. There are certainly indications of it all around.

Changes, Removals and New Firms.

The *Leader*, Laurel, Ia., is a new paper.

The *People*, Streator, Ill., is a new paper.

Stockton, Cal., has a new paper called *Topics*.

Waresboro Ga., has a new paper called *Nimbus*.

The *Anti-Monopolist*, New York, is a new paper.

The *Princetonian*, Princeton, Ark., is a new paper.

Hartselle, Ala., has a new paper called *Dixie Home*.

The *Commonwealth*, Redfield, S. Dak., is a new paper.

Columbia, Mo., has a new paper called the *Chronicle*.

Blairsville, Pa., has a new paper called the *Enterprise*.

The *Weekly Advance*, Germantown, Pa., is a new paper.

The *Daily Dispatch*, Denison, Tex., has suspended publication.

H. E. Schultz will open a book and stationery store at Dows, Ia.

The *Weekly Sentinel*, Laramie, Wyo., has suspended publication.

Harlan C. Smith has opened a stationery, &c., store at Fairfield, Ohio.

Philadelphia, Pa., has a new monthly magazine called the *Citizen*.

The *Commercial*, Ypsilanti, Mich., has been purchased by E. S. Reed.

The *News*, Bird City, Kan., has been purchased by W. K. Loofborrow.

W. H. Ward has opened a book and stationery store at Terre Haute, Ind.

The *Baptist*, Lincoln, Neb., has been removed to Louisville, same State.

The *News*, Oriskany Falls, N. Y., has been purchased by W. S. Phillips.

The *Times*, Eagle Grove, Ia., has been purchased by Hinderman & Taylor.

The *Daylight*, Concordia, Kan., has begun the publication of a daily issue.

The *Prospector*, Tombstone, Ariz., has been purchased by Wm. H. Hattich.

Fort Scott, Kan., has a new paper called the *Item*, published by Nell R. Ashly.

The *Observer*, Washington, Mo., has been purchased by C. H. Lamareaux.

J. F. Legate, printer, Leavenworth, Kan., has been succeeded by Cox & Harmon.

The *Times*, Yuma, A. T., has been purchased by One Kennett, of San Francisco, Cal.

Arkport, N. Y., has a new paper called the *Observer*, published by Ed. J. Lamphear.

The *Capital* Printing Company, Sedalia, Mo., has been incorporated. Capital stock, $5,000.

Chicago, Ill., has a new trade paper called *Wheel Talk*, published by Morgan & Wright.

The *Sun* Printing Company, Aspen, Col., has been incorporated by D. W. Brunton, J. R. Williams, C. I. Glassbrook, Robert

Woodbridge and C. R. Bell. Capital stock, $4,000.

W. F. Shaw, music publisher, Philadelphia, Pa., has sold out.

G. R. Rudisell, publisher, Weir, Kan., has been succeeded by E. F. Caton.

E. S. Cole, publisher, Grand Meadow, Minn., has sold out.

A. W. Dahl, printer, Pattonsburg, Mo., has moved to Holden, same State.

Noll & Roberts, publishers, Quitman, Mo., have been succeeded by V. R. Roberts.

Allen Willey, publisher, Hartford, Conn., has sold out.

G. H. Iseminger, publisher, Hope, N. Dak., has been succeeded by Stewart & Pepper.

Geo. W. Nellis, publisher, Herkimer, N. Y., has been succeeded by Nellis & Knight.

John Lent & Co., plate printers, Philadelphia, have been succeeded by the Young & Lent Company.

The *Morning Call*, Allentown, Pa., has been purchased by David A. Miller and Saml. Miller.

The *Register*, Publishing Company, Denver, Col., has been incorporated. Capital stock, $15,000.

Lizzie C. Shenee & Co. have opened a book, stationery and wall paper store at Williamsport, Pa.

Chas. T. Cox and Frank D. Harmon have opened a book and job printing office at Leavenworth, Kan.

The Marshall Paper Company, paper dealer, Grand Island, Neb., has removed to Omaha, same State.

The *Evening Herald*, Americus, Ga., is a new paper edited by W. K. Wheatley and Arch. R. Eldridge.

J. A. Courtney has opened a book and stationery store and news stand at Oklahoma City, Okla. Ter.

The *Recorder* Publishing Company, Conshohocken, Pa., has been incorporated. Capital stock, $15,000,

R. T. Williams, bookbinder, Victoria, B. C., has sold out to the Colonist Printing and Publishing Company.

Steiner & Rosenthal, lithographers, New York city, have been succeeded by Wm. Steiner, under the same style.

The W. H. Wood Engraving Company, Boston, Mass., has been dissolved. W. H. Wood and A. D. Sawin continue the business.

The Letter Printing and Publishing Company, Terre Haute, Ind., has been incorporated. Capital stock, $1,000.

W. H. Sullivan has been admitted to partnership with J. H. Devereaux, stationer and newsdealer, Waterbury, Conn.

C. W. Moulton, publisher of the *Magazine of Poetry*, has sold out to the Peter Paul Book Company, Buffalo, N. Y.

The *Reporter*, Drovers Grove, Ill., has been purchased by H. M. White and A. E. Williams, of Plankinton, S. Dak.

The *Sunday Herald* and the *National Intelligencer*, Washington, D. C., have been purchased by Eugene Boyers & Co.

Boughton & McCann, booksellers, &c., Hannibal, Mo., have dissolved partnership. J. K. McCann continues the business.

Chicago, Ill., has a new monthly magazine called *Self-Culture*, devoted to the interests of the Home University League.

The Midland Book Company, Chicago, Ill., has been incorporated to manufacture books by John S. Hummer, John A. Power and Mark M. Harrison. Capital stock, $5,000.

D. C. Francis & Co., New York, have been incorporated to do a publishing business. Capital stock, $20,000, and directors, G. H. Richmond, James A. Church and E. D. Church.

The *Press* Publishing Company, Fort Worth, Tex., has been incorporated to do a printing and publishing business by Hal. M. Davis, E. G. Center and Wm. Capps. Capital stock, $10,000.

A. W. Melchior and Thos. W. Clark have taken charge of the *Gazette* job printing office at Alexandria, Va., and have formed a partnership under the style of the Enterprise Job Printing Company.

John Glenn & Co. have taken quarters in the new Vernon Building, 65 and 67 Duane street, and will manufacture boxed and ream goods, &c., carrying a full stock of William Joynson & Son's English papers.

The Pickaxe Publishing Company, Chicago, Ill., has been incorporated to do a publishing and printing business, with a capital stock of $10,000. Incorporators are Albert Durham, Ella M. Gill and Albert Schock.

The Flatbush *Press* Company (Limited) has been incorporated to publish a newspaper in Flatbush, N. Y. Capital, $3,000, and directors, H. L. Bartlett, V. L. Bedingfield, T. W. Rich, Patrick McKenna, M. E. Finnegan and H. A. Meyer, of Brooklyn.

Mortgages, Etc.

[In the appended list R. signifies a renewal of a pre-existing mortgage; B. S., bill of sale; T. D., trust deed, and Real, a mortgage on real estate.]

WESTERN STATES.

Mortgagor.	*Amount.*
Benj. Johnson, Boston, Mass.	$3,000
Geo. Wood, Cambridgeport, Mass.	1,000
Edmond Guertin, Woonsocket, R. I.	2,000

MIDDLE STATES.

John N. Race, Ridgefield Park, N. J.	700
Jesse A. Peck, Elmira, N. Y.	2,417

WESTERN STATES.

J. B. Walters (Walters & Clark), Riverside, Cal. (Real)	600
J. A. Harris (Harris & Jones), San Diego, Cal.	350
L. R. Hutchins, Oquawka, Ill.	100
Daisy M. Jouel, Indianapolis, Ind.	803
R. R. Kellogg, Davenport, Ia. (B. S.)	223
S. H. Samuels, Des Moines, Ia.	600
F. J. Will & Co., Eagle Grove, Ia.	7,000
Sheakley Brothers, Eldora, Ia.	2,000
Engle Perry, Newton, Ia.	900
E. E. Hartley, Hoxie, Kan.	175
Carr, Adix & Co., Detroit, Mich.	6,000
A. D. Axtell, Minneapolis, Minn.	150
C. H. Swallow, Leigh, Neb. (Real)	300
Chas. Sherman (Sherman & Cutright), Plattsmouth, Neb. (B. S.)	800
Lewis Knerr, Dayton, Ohio (R.)	12,784
W. E. Blackmer, Ritzville, Wash.	1,300

SOUTHERN STATES.

R. S. Bonsall, St. Louis, Mo.	549
Theodore Lorens, St. Louis, Mo.	312
John Weidemann, St. Louis, Mo.	1,500

LIENS DISCHARGED.

R. T. Lowry, New Denver, B. C.	450

Fires.

G. F. Dustin, stationer, Boston, Mass., was damaged by fire May 15.

G. W. Kelly, publisher, Attica, Kan., has been damaged by fire. Insurance, $1,000.

The C. C. White Toilet Paper Company, 164 Duane street, was damaged by fire on May 14.

By the overturning of a lamp on the lower floor in the mill of the Finlay Paper Company, Newton Lower Falls, Mass., on May 13, a fire was started which did $4,000 damage. The building was only partially insured.

Market Review.

OFFICE OF THE PAPER TRADE JOURNAL, FRIDAY, May 17, 1895.

THE MONEY MARKET.—The stock market was firmer and nearly all of the moving shares closed at advanced figures. The loan market on call was easy at 1@1½ per cent., with light demand for accommodation. In the time loan market business was light and lenders were generally forced to conform to the ideas of borrowers. No attempt was made to discriminate as to the collateral. Rates were 1½@2 per cent. for thirty days, 2@2½ per cent. for sixty to ninety days, 2½@3 per cent. for four to five and 3@3½ per cent. for six to seven months on good Stock Exchange collateral. Commercial paper was in moderate supply. Quotations are 2½@3 per cent. for sixty to ninety day indorsed bills receivable, 3@4 for four months' commission house names, 3½@4 for prime four months', 4@4½ for prime six months and 5@6 for good four to six months' single names, some of which find quick sale. Early in the day the market for foreign exchange held firm, but it eased off at the close on renewed offerings of security bills. It is believed that the sales of bills against the New York Central stock going abroad were largely completed some days ago. Posted rates were $4.87 for sixty days and $4.88 for sight. Actual rates were $4.86@4.86½ for sixty days and $4.87@4.87½ for sight.

THE PAPER TRADE.—There is little of special interest in the paper market nowadays. Matters progress very uniformly, some people reporting trade as better and others saying that there is no improvement. Writing mills are having a fair amount of business. Book mills are finding orders irregular. News mills are busy, as are also the Manilla mills. Work is progressing in the matter of the News combination, and events are making satisfactory headway.

JUTE BUTTS.—The spot is bare of stock and the Calcutta market is nominal at 1⅛c.

WOOD PULP.—There is a very regular call for Ground Wood, and values range as they have for some little time.

WOOD FIBRE.—Chemical Fibre is in very fair call. Domestic Bleached Soda is quoted at 2½@2¾c., as to quality. Domestic Sulphite is quoted at 1⅞@2⅜c., as to quality, for Unbleached, and 3½c. for Bleached. Foreign grades are quoted as follows: Unbleached Pine, soda process, 2.60@2.75c.; Bleached, same process, 3½@3.90c.; Unbleached, sulphite process, 1½@3.15c.; Bleached, do., 3⅛@4c.; Bleached Straw Pulp, 3.80c. This week there were imported at this port 105 tons of Chemical Fibre, being 42 tons from Antwerp and 63 tons from Hull.

FOREIGN RAGS AND PAPER STOCK.—Business in the foreign rag market is quiet, and the sales made are not important. We note sale 50 tons extra Blue Cottons, Belgium, at 1¼c. Imports for the week aggregated 3,591 bales and 105 tons, being 418 bs. rags, 141 bs. papers, 105 tons chemical fibre and 3,392 bs. manillas. Ports of shipment and quantities were as follows: Antwerp, 42 tons chemical fibre, 1,047 bs. manillas; Dundee, 139 bs. manillas; Glasgow, 25 bs. papers; Hamburg, 216 bs. rags, 111 bs. manillas; Hull, 34 bs. rags, 63 tons chemical fibre, 1,266 bs. manillas; Liverpool, 48 bs. papers, 921 bs. manillas; London, 140 bs. rags, 68 bs. papers, 711 bs. manillas; Rosario, 98 bs. manillas; Rotterdam, 28 bs. rags, 99 bs. manillas.

DOMESTIC RAGS.—The call for Domestic stock is light, and all grades are moving rather slowly. Prices, however, do not change much. Whites are quoted at 3½c., with sale reported at 3c. delivered. Soiled Whites are quoted at 2¼c., and Thirds and Blues at 1¼c.

BAGGING, &c.—The market for Gunny Bagging is very quiet and no sales are reported, the nominal quotation remaining at 1.05c. Imports of Manilla stock for the week aggregated 3,392 bales, being 1,047 bs. from Antwerp, 139 bs. from Dundee, 111 bs. from Hamburg, 1,266 bs. from Hull, 921 bs. from Liverpool, 711 bs. from London, 98 bs. from Rosario, and 99 bs. from Rotterdam.

OLD PAPERS.—All grades are moving very fairly. We quote: No. 1 Hard White Shavings, 2½c.; No. 1 Soft White do., strictly free from wood, 2.05c.; Soft White do., ordinary, 1⅞@2c.; Old Ledgers, 1⅞c.; Solid Printed Books, 1¼c.; Mixed Shavings, No. 1, 1@1¼c.; Mixed Shavings, No. 2, ¾c.; Extra No. 1 Manillas, 90c.; No. 1 Manillas, ordinary, 75c.; No. 2 Manillas, 60c.; Light Book Stock, 60c.; Folded News (over issues), 50@55c.; Mixed Papers, 35c.; Commons, 25@30c.; Straw Clippings, 45c.; Binders' do., 45c.

STRAW.—The market was steady. We quote: Long Rye, at 55@65c.; Short Rye, at 45@50c.; Wheat, at 35@45c.; Oat, at 35@45c.

ROSINS.—There was only a moderate trade in Rosins. We quote: Common to Good Strained, $1.80@1.85; E, $1.90@1.95; F, $2; G, $2.10; H, $2.25; I, $2.50; K, $2.70; M, $3; N, $3.15; W G, $3.20.

CHEMICALS.—The market for paper makers' chemicals does not show any decided improvement, although there is a fair trade going. Prime Bleaching Powders are in limited supply on spot and sell readily at 1.85@1.95c. Sal Soda is in fair movement, Alkali is in steady call and Caustic Soda is wanted only to a moderate extent. During the week there have been sales of Bleach at 1.85@1.95c.; 10 tons Soda Ash at 1¼c.; Caustic Soda, 2.10c., and Alkali, 1¼c.

CHINA CLAY.—The arrivals continue free, though no surplus stocks are reported in first hands. Sales are reported of 600 casks here and to arrive at $11@16.50 per ton, as to grade and quantity. For an extra high grade they are quoting $18@18.50 per ton as to quantity.

TWINES.—There is a steady demand for stock. We quote: Sisal Hay Rope, 5@6c.; Sisal Lath Yarn, fine, 9¼c., and medium, 9c.; Jute Lines, 7½c.; Jute Ready, 7@7½c.; New Zealand Hay Rope, 6¼@7¼c.; New Zealand Lath Yarn, fine, 9¼c.; medium, 8¼c. Twines—Hemp, 4½ and 6 B Russia, 12c.; 4½ and 6 A American, 12c.; 4½ and 6 D Jute, 9½c.; 4½ and 6 L Jute, 9c.; Hemp Ball, 18 B C, 17c.; 18 C, 15c.; Russian Hemp Hay Rope, 9c.

COAL.—The market remains in the same unsettled condition as when last reviewed.

EDWIN BUTTERWORTH & CO.
MANCHESTER ENGLAND,
PACKERS OF ALL KINDS OF
Paper Stock, Cotton Waste and Buffalo Sizing
Wood Pulp, Moist and Air Dry Pulp,
Soda and Ground Pulp,
(P) 83 GUNNY BAGGING, &c.
OFFICE IN NEW YORK:
Vanderbilt Building, No. 132 Nassau Street,
JAMES FIRNIE, A. S. DEMAREST, } Managers.

WATERBURY
Felts and Jackets,
MANUFACTURED BY
H. WATERBURY & SONS CO.,
ORISKANY, N. Y.
Adapted to every grade of paper, from the *finest* to the *coarsest*.
The Largest Manufacturers of Paper Makers' Felts in the World.
Our wet machine or pulp felts are *unequaled* for *durability*.
For WRITING and LEDGER PAPERS We warrant a felt equal to anything imported.

PRICES CURRENT.

NEW YORK MARKET.

Paper Market.

DEALERS' SELLING PRICES.

Ledger and Record	$0.16	@	$0.21
Flat Caps, superfines	11½	@	14
Flat Caps, fines	11	@	13
Flat Caps, engine sized	7	@	9
Blotting, American	8	@	12
Blotting, English	17	@	....
Book, super sized and calendered	5	@	8
Book, super sized and tinted	5	@	8
Book, extra machine finish	5	@	....
Book, machine finish, low grade	4½	@	5
News	2¾	@	3
Poster	3	@	..
Hanging, superfine, No. 1	8	@	10
Hanging, superfine, No. 2	6	@	8
Hanging, machine satin	4	@	4½
Hanging, white blank, No. 1	4	@	4½
Hanging, curtain	3½	@	4
Hanging, brown	2½	@	3
Colored papers, double mediums	6½	@	8
Colored papers, glazed medium	7½	@	8½
Colored papers, tobacco	8½	@	9½
Colored papers, tissues, 20×30, ℔ ream	1.10	@	1.35
Tissues, black, 20×30, ℔ ream	1.40	@	1.50
White tissue, 20×30, ℔ ream	60	@	80
Manillas, Flour sack, cream	10½	@	....
Manillas, Flour sack, drab	9½	@	11
Manillas, Rope, unbleached No. 1	9½	@	11
Manillas, Rope, unbleached No. 2	7½	@	9
Manillas, No. 1, light weight	6½	@	6¾
Manillas, No. 1, heavy weight	6¼	@	6½
Manillas, No. 2	5	@	5
Manillas, Bogus	3½	@	3¾
Wrapping Parchment	16	@	....
Tissue Manillas, full count, weight and size, 24×36, other sizes in proportion	55	@	60
Hardware, light colored, No. 1	4¼	@	....
Hardware, No. 1, glazed, tarred	4½	@	....
Hardware, No. 1, glazed	4	@	....
Binders' Boards, ℔ ton, No. 1	70.00	@	90.00
Binders' Boards, ℔ ton, No. 2	30.00	@	40.00
Strawboards, air dried, No. 1, ℔ ton	47.50	@	....
Strawboards, steam dried, No. 1, ℔ ton f. o. b. mill	....	@	34.00
Straw Wrapping, basis, 15×20, 15½ lbs., 20 sheets—			
36×40, from 28 to 42 lbs. ℔ rm	65	@	....
30×40, from 20 to 34 lbs. ℔ rm	....	@	52
24×36, from 24 to 26 lbs. ℔ rm	....	@	48
22×32, from 24 to 26 lbs. ℔ rm	45	@	....
20×30, 21 lbs., ℔ rm	....	@	34
20×30, from 14 to 17 lbs. ℔ rm	26	@	....
16×22, from 12 to 13 lbs. ℔ rm	23	@	....
18×28	....	@	24
15×20, 10 lbs. ℔ rm	....	@	17
15×20, from 7 to 8½ lbs. ℔ rm	....	@	13
14×18	....	@	12
12×16	....	@	11
11×15	....	@	10
Straw Wrapping, ℔ lb., heavy weight	1.75	@	1.85
Straw Wrapping, ℔ lb., light-weight	1¾	@	....
Cigarette, Straw Tissue, per case of 100 boxes, 50 books to the box, 200 sheets to the book	21.00	@	30.00
Tea Papers, 16 sheet quires—			
12×18	....	@	14
14×20	....	@	18
Card Middles, ground wood	5½	@	6¾
Card Middles, long fibre wood	8½	@	9
Card Middles, rag and wood	8	@	9
Pulp Lined Boards, single manilla, No. 100 and heavier	42.50	@	....
Pulp Lined Boards, double manilla, No. 100 and heavier	47.50	@	....

Woolen Rags.

Comforter Stock	....	@	....
White Woolens	8	@	....
Blue Gray Stockings	7	@	8
White Stockings	10	@	12
Blue Flannels	7	@	8
Reds, old	6½	@	7
Reds, new Shirt Clippings	15	@	16
Mixed Softs, free of Carpets	4½	@	5
Seamed Cloth	....	@	4
Skirted Cloth	3½	@	....
New Cloth Clips	7	@	9
New Satinets, clean stock	1¾	@	1½
Satinets, old	65	@	75
Seams	1	@	1¼
Delaines, stripped for extract	1½	@	2
Blankets, Woolen	2½	@	2¾
Wool Carpets	2½	@	....
White Linseys	5	@	6
Mixed Linsevs	75	@	1

Rags, Rope and Bagging.

White Shirt Cuttings, No. 1	4¾	@	....
Mill Assorted Whites	3½	@	3¾
Unbleached Muslins	4½	@	4¾
City Whites, No. 1	3	@	3¼
New Seconds, light	2¾	@	....
New Seconds, dark	1½	@	2
No. 2 Whites	¾	@	1.15
Cotton Canvas, No. 1	3	@	....
Linen Canvas, No. 1	....	@	2¾
Country Mixed, free of Woolens	60	@	....
Seconds (City)	....	@	....
Colors, ℔ 100 lbs.	....	@	....
Manilla Rope	....	@	3½
Manilla Rope, tarred	....	@	....
Gunny Bagging, No. 1	1.10	@	1.20
Mixed Bagging, No. 1	⅞	@	1
Burlap Bagging, No. 1	1.10	@	1.15
Kentucky Hemp Bagging	....	@	....
Tar Shakings	1	@	....
Hemp Twine Stock	....	@	....
Jute Waste	¾	@	1¼

Shavings and Old Paper.

White Collar Cuttings	3	@	....
White Envelope Cuttings	3¼	@	....
Hard White Shavings, No. 1	2¾	@	3
Soft White Shavings, strictly free from wood	2.15	@	....
Soft White Shavings, ordinary	1⅞	@	2
Mixed Shavings, part white	1	@	1½
Ledger and Writing	2	@	2.10
Solid Stock	....	@	1½
Book Stock, No. 1 light	....	@	1½
Old Newspapers	40	@	....
Manillas No. 1	....	@	1.15
Manillas No. 2	80	@	....
Mixed Manillas	60	@	....
Hardwares, No. 1	65	@	....
Mixed Papers	40	@	....
Commons	25	@	30
Binders' Board Cuttings	50	@	....
Strawboard Cuttings	45	@	50

English Rags, &c.

New Cuttings, cotton	5	@	5½
London Fines, cotton	3½	@	4
Outshots, cotton	2½	@	3
Seconds	1½	@	1.65
Thirds	1¼	@	1⅜
New Print Tabs	2½	@	3
Checks and Blues	2¼	@	2¾
Light Prints	1½	@	1⅞
Light Fustians	2	@	2¼
Dark Fustians	1¾	@	1⅞
Black Calicoes	1½	@	1¾
First Canvas Linen	3½	@	4
Second Canvas Linen	3	@	....
Gunny Bagging, No. 1	1⅜	@	1½
Gunny Bagging, No. 2	1.05	@	1.20
Burlaps Bagging, No. 1	....	@	1.60
Rope, Manilla	2½	@	....
Rope, Manilla, tarred	....	@	2
Jute Threads	....	@	1⅞
Clean Jute Ropes	2	@	2½
Mixed Rope	1½	@	1¾
Flax Tow	1½	@	1¾

English Old Papers and Shavings.

Hard Shavings, No. 1	1 2	@	....
Soft Shavings, No. 1	2¼	@	2½
White and Colored Shavings, No. 1	1¾	@	1¾
White and Colored Shavings, No. 2	1	@	1¼
Cream Post Shavings	2½	@	....
Paper Collar Cuttings	....	@	2
Briefs and Letters	1½	@	1¾
Books and Pamphlets	1.10	@	....
Old Newspapers	....	@	....
Broken News and Letters	⅞	@	1
Old Blank Books	2¼	@	2½
White and Buff Railway Sheets	1¼	@	....

Hamburg Rags, &c.

N S C, New Shirt Cuttings	....	@	4½
S P F F F, No. 1 Linens	....	@	3½
S P F F, No. 2 Linens	....	@	3½
S P F, No. 3 Linens	....	@	2
F G, No. 4 Linens	....	@	2
F F, No. 5 Linens	1¾	@	....
Extra Fine Blue Linen, light color	2	@	....
L F B, Blue Linens	2½	@	....
C S P F F F, No 1 Cottons	....	@	3½
C S P F F, No. 2 Cottons	....	@	....
C S P F, No. 3 Cottons	2½	@	....
C C C, Colored Cottons	....	@	....
C F X, Low grade Cottons	⅝	@	⅞
Extra Fine Blue Cottons	....	@	1½

Pulps and Fibres.

Ground Wood, domestic, delivered	1	@	1.35
Ground Wood, foreign, ex dock	....	@	....
Soda Fibre, domestic, unbleached	....	@	....
Soda Fibre, domestic, bleached	3	@	3½
Soda Fibre, foreign, unbleached	2.65	@	3
Soda Fibre, foreign, bleached	3½	@	....
Sulphite, domestic, unbleached	2.60	@	3
Sulphite, domestic, bleached	3½	@	3¾
Sulphite, foreign, unbleached	3	@	3½
Sulphite, foreign, bleached	4	@	4½

Japanese Rags.

Blues, Hiogo, ex store	1.22½	@	....

Chemicals, Coloring Materials, &c

Alkali, 58 ℔ cent	1	@	1.20
Alum, lump	1.65	@	....
Alum, ground	1.75	@	....
Alum, Keystone	1¾	@	¼
Alum, Diamond	....	@	2½
Alum, pearl	2¾	@	2¾
Alum, porous	2¾	@	2¾
Alum, Merrimac porous	2	@	....
Aluminous Cake	....	@	1¼
Anti-Chlorine	....	@	2¾
Bichromate Potash, American	....	@	10
Bleaching Powders, spot	1.85	@	1.95
Cambridge Ochre	11.25	@	....
Caustic Soda, 60 ℔ cent	2.20	@	2.30
Clay, China, English, ℔ ton	12.50	@	17.00
Clay, China, "Star"	12.50	@	....
Clay, China, "Keystone"	10.75	@	....
Clay, South Carolina, ℔ ton	9.50	@	10.00
Clay, Terra Alba, French, ℔ cwt	1.00	@	1.12½
Clay, Terra Alba, American, No. 1	95	@	1.00
Corn Starch	3	@	3½
Copperas, American	....	@	80
Extract Logwood	9½	@	....
Mineral Pulp	10.25	@	....
Orange Mineral	....	@	9½
Potato Starch	4½	@	4¾
Prussian Blue, dry	80	@	85
Prussiate Potash, American	....	@	24½
Rosins, common to good strained, ℔ bbl	1.80	@	1.85
Rosins, E, ℔ bbl	1.90	@	1.95
Rosins, F, ℔ bbl	2.00	@	....
Rosins, G, ℔ bbl	2.10	@	....
Rosins, H, ℔ bbl	2.25	@	....
Rosins, I, ℔ bbl	2.50	@	....
Rosins, K, ℔ bbl	....	@	2.70
Rosins, M, ℔ bbl	....	@	3.00
Rosins, N, ℔ bbl	....	@	3.15
Rosins, W G, ℔ bbl	3.30	@	....
Sal Soda	1.10	@	....
Soda Ash Caustic, 48 ℔ cent	1.60	@	1.65
Soda Ash, carbonated, 48 ℔ cent	1.57½	@	1.70
Soluble Blue	40	@	55
Spanish Brown	½	@	1
Sugar Lead, white	12	@	....
Sugar Lead, brown	7	@	....
Sulphate of Alumina	....	@	2¼
Sulphuric Acid, 66 ℔ cent	1	@	1¾
Ultramarine, blue	14	@	17½
Venetian Red	1	@	1½
Vitriol, blue	5½	@	5¾
Yellow Ochre Rochelle	1.35	@	1.50

BOSTON MARKET.

Paper Stock.

White Rags, No. 1	3½	@	4
No. 2 Whites	2½	@	2¾
Common Seconds	1¾	@	2
Thirds and Blues	1¾	@	....
Southern Mixed Rags	80	@	90
Colors, country	½	@	¾
Colors, city	25	@	30
New Calicoes, light	2	@	2½
New Calicoes, dark	1¾	@	1¾
Shirt Cuttings, best	4	@	4½
Shirt Cuttings, good	3½	@	3¾
Shirt Cuttings, unbleached	3½	@	3¾
Shirt Cuttings, unbleached No. 2	3	@	3½
Shirt Cuttings, cheviots	2½	@	2¾
Overall Cuttings, blue	2¾	@	2¾
Overall Cuttings, brown	2	@	2¼
Shoe Rags, bleached	3½	@	3¾
Shoe Rags, unbleached	3¼	@	3½
Shoe Rags, brown	2½	@	2¾
Cotton Flannels, bleached	5	@	....
Cotton Flannels, unbleached	3½	@	3¾
Corset Rags, drab	3½	@	3¾
Corset Rags, white	4	@	4½
Tailors' Seconds	1¾	@	1¾
Tailors' Colors	25	@	30
Cotton Canvas	2¾	@	2¾
Cotton Canvas, No. 2	1¾	@	1¾
Linen Canvas	1¾	@	2
New Canvas Cutting	3½	@	3½
Insole Canvas	3	@	3½
Print Papers, best	30	@	35
Folded News	35	@	40
Old Waste Papers	25	@	30
Manilla Paper, No. 1	1.15	@	1.20
Manilla Paper, good mixed	80	@	95
Manilla Paper, blues	65	@	70
Mixed Book Stock	95	@	1.00
Books and Pamphlets	1.10	@	1.15
Book Stock, light	70	@	75
Ledgers and Letters	1.85	@	1.90
Soft Book Shavings	1¾	@	2
Hard White Book Shavings	2½	@	2¾
Leather Board Chips	75	@	80
Straw Chips	35	@	40
Shivey Bagging	1½	@	1¾
No. 1 Factory Bagging	1.00	@	1.10
Burlap Bagging	1.00	@	1.10
Burlap Bagging, large pieces	1¾	@	2
Kentucky Bagging	1	@	1¼
Mixed Bagging	⅝	@	¾
No. 2 Bagging	½	@	⅝
Shakings, soft	⅝	@	¾
Tarred Shakings	1	@	1¼
Standing Rigging	2½	@	2¾
Standing Rigging, foreign	2½	@	2¾
Bolt Rope	2	@	2.05
Oakum Junk, No. 2	1½	@	1¾
Tarred Paper Junk	1.15	@	1.20
Tarred Paper Junk, inferior	¾	@	¾
Manilla Rope	1¾	@	2
Tarred Manilla	1¾	@	1¾
Hemp Strings	1	@	1¼
Sisal Strings	1.15	@	1.20
Wool Strings	1.10	@	1.15
Flax Tow	¾	@	1
Flax Waste	¾	@	1

New Papers.

Superfine Book	5	@	7
Fine Book	5	@	6
News, rag and wood	2¾	@	3
Manilla, Cream Rope	9½	@	10
Manilla, No. 1, Rope	7½	@	8½
Manilla, Extra Jute	5½	@	6
Manilla, Jute and Gunny	5½	@	6
Manilla, No. 2	4	@	4½
Manilla, Bogus	2	@	3
Hardware, No. 1, tarred	7½	@	8½
Hardware, No. 2	6½	@	7
Hardware, red	4½	@	5½
Strawboards, air dried, ℔ ton	37½	@	45.00
Strawboards, steam dried, ℔ ton	30.00	@	35.00
Straw Wrapping, heavy	1.90	@	2.00
Straw Wrapping, light	2½	@	2¾
Binders' Boards, ℔ ton	45.00	@	50.00
Leather Board, Common, ℔ lb	3	@	4
Leather Board, counter	5	@	8
Leather Board, extra	8	@	10
Tar Boards, ℔ ton	100.00	@	110.00

Chemicals.

Alkali	92½	@	1
Aluminous Cake, currency	1¼	@	1½
Alum, American ground	1.75	@	1.80
Alum, American lump	1.65	@	1.70
Anti-Chlorine	2	@	2½
Bichromate Potash	9¼	@	9½
Bleaching Powders	1.85	@	2
Caustic Soda, 74 ℔ cent	2¼	@	2½
Clay, English, ℔ ton	15.00	@	17.00
Clay, American, ℔ ton	10.00	@	11.00
Copperas, ℔ lb	55	@	60
Extract Logwood	5½	@	10½
Lime, Rockland, ℔ bbl	85	@	90
Prussian Blue, ℔ lb	26	@	28
Prussiate Potash, yellow	19	@	20
Prussiate Potash, red	26	@	28
Rosin, common strained, ℔ bbl	....	@	1.37½
Rosin, Medium	3.00	@	3.00
Rosin, extra pale, ℔ bbl	....	@	4.00
Sal Soda, ℔ lb	....	@	70
Soda Ash, 48 ℔ cent, caustic	1.30	@	1.50
Soda Ash, 48 ℔ cent, carbonated	1.00	@	1.25
Soluble Blue	2.50	@	3.50
Sugar Lead, white	8½	@	....
Sugar Lead, brown	5½	@	6
Sulphuric Acid, 66°	¾	@	1¼
Terra Alba, ℔ ton	9.00	@	15.00
Ultramarine, ℔ lb	7	@	25
Venetian Red, ℔ lb	70	@	2¾
Vitriol, Blue	4	@	4½
Yellow Ochre	½	@	1

Wants and For Sale.

Twenty-five words or less, one dollar each insertion. Over twenty-five words, four cents a word each insertion, up to eighty words. Cash should accompany order.

Over eighty words, or displayed advertising, will be charged for by the inch, according to our regular schedule of rates.

Answers can come in our care and will be promptly forwarded without extra charge.

WANTED—POSITION AS SUPERINTENDent in a mill making book, news, manillas or hangings; now superintendent of a two machine mill. Apply SUPERINTENDENT, care Paper Trade Journal.

YOUNG MAN NOW SELLING THE JOBBING paper trade in New York and vicinity would like to secure the agencies for some more good mills; well acquainted and can give first-class references. EXPERIENCED, care Journal.

WANTED—BY YOUNG MARRIED MAN, position as manager of tissue or wrapping mill; can do all kinds of office work and operate mill. S., care Journal.

WANTED—A SITUATION AS SUPERINtendent of a book, news or manilla mill, by a competent young man. Address S. E. B., care Paper Trade Journal.

WANTED—ONE 56 INCH STACK CALENders, with about five chilled rolls, in good running order; one iron frame rag cutter for doing heavy work; one railroad duster with picker attachment; one knife grinder for 55 inch knife; one revolving cutter, 56 inch, for cutting off heavy paper; in answering, state condition of machine andvery lowest price. Address HENRY E. ROGERS, South Manchester, Conn.

SITUATION WANTED—AS BOSS MACHINE tender; accustomed to large machines and high speed; best of references as to character and ability. Address M. M., care of Journal.

WANTED—MACHINE TENDER, 88 INCH Fourdrinier Pusey & Jones machine, on book papers; married; strictly sober; references. Address YORKE, care of Paper Trade Journal.

WANTED—POSITION AS SUPERINTENDent in manilla mill, by man who thoroughly understands manillas; had good experience in constructing and starting new mills; will be open for engagement about August 1; all correspondence strictly confidential. Address M. S. H., care Paper Trade Journal.

WANTED—ONE FIRST-CLASS BACKtender for fast running on Fourdrinier; $1.75 per day. Answer F., care Paper Trade Journal.

SITUATION WANTED,

By young married man, as boss in color department; understands mixing colors for fine colored, white, plated and chromo papers, enameled and glazed, ivories and satins for lithograph, bristols, boxboards and wedding cards; can give good reference. Apply to COLOR MIXER,
Box 818, Holyoke, Mass.

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Twelve 76 inch Dryers, 36 inches diameter.
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One 1,000 lb. Washing Engine.
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One Diaphragm Screen for six plates, 12x40.
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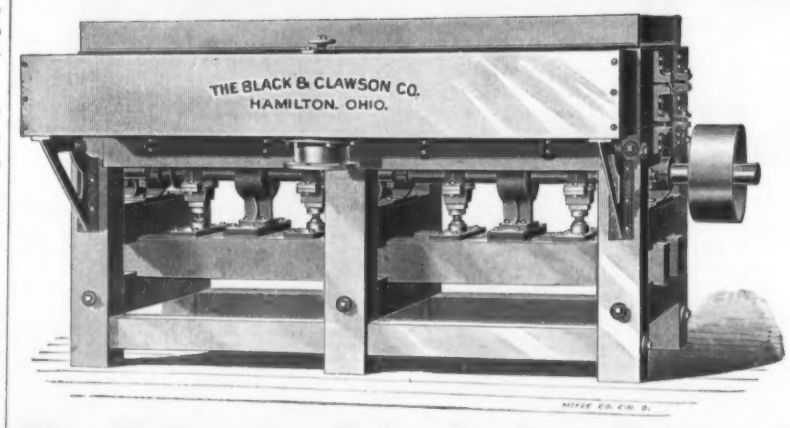

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My attention having been called to the fact that certain parties are infringing certain Letters Patent granted to me, to wit: No. 212,866, dated March 4, 1879, covering a new form of carpet lining, and No. 295,696, dated December 21, 1880, covering the method of and apparatus for making the seams, this is to notify all such persons, whether manufacturers or dealers, that any infringement of either of said patents will be prosecuted to the full extent of the law. MOSES NEWTON. Patentee.

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One 82 inch Fourdrinier machine complete, with press rolls; nine 36x78 inch dryers; stack of chilled rolls; reel, cone pulley cutter; Marshall driving train; made in 1887 and used three years.
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One 74 inch double cylinder machine, consisting of screens, two molds, 30x74 inches; first and second presses; wood and iron rolls; fifteen iron dryers, 36x72 inches; stack of nine chilled rolls, revolving reel, slitter and winder, with Marshall driving train.
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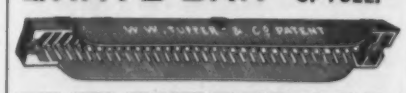

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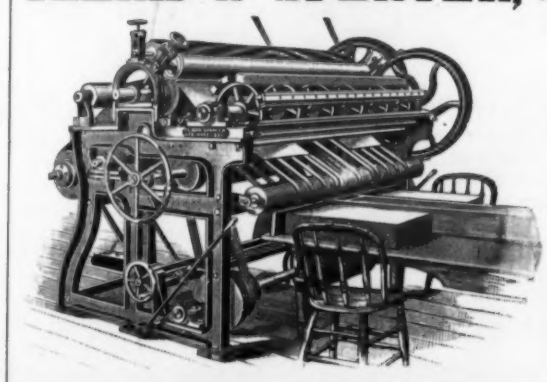

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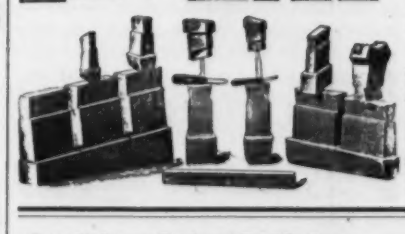

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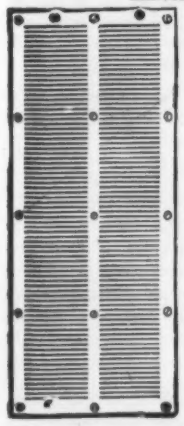

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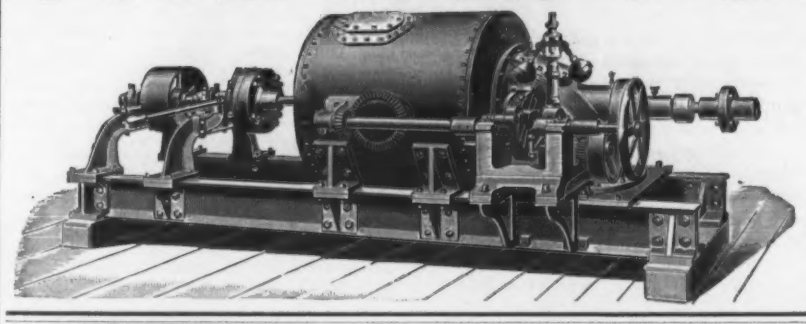

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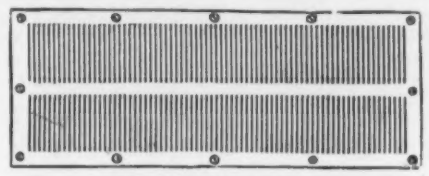

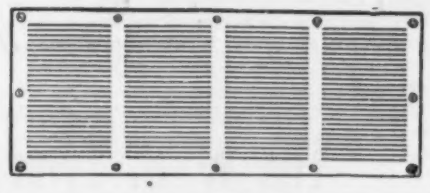

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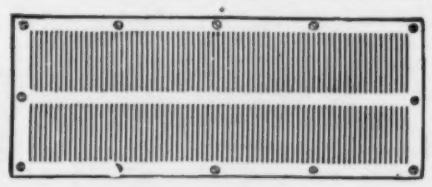

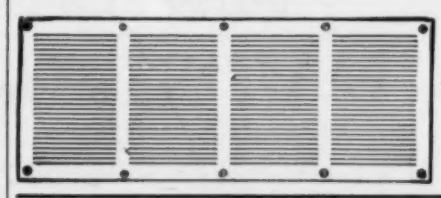

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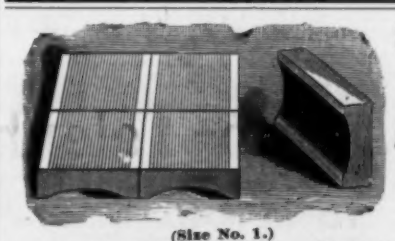

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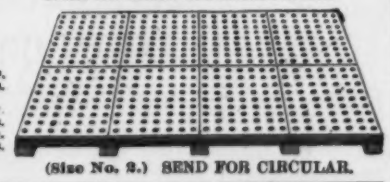

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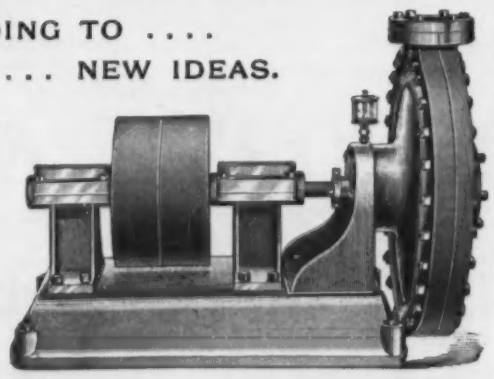

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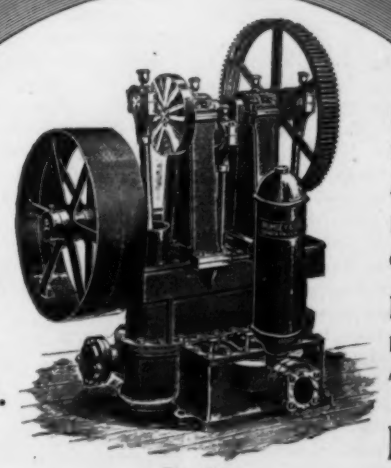

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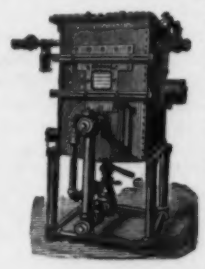

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Manufacturing News.

EASTERN STATES.

The mill of the Moosehead Pulp and Paper Company, Solon, Me., shut down on May 4 because its logs were held back up the river while a dam, carried away by the recent freshet, was being rebuilt. A stone extension to the mill 40x60 feet and three stories high is to be built at once.

The employees of the Poland Paper Company, Mechanic Falls, Me., have had an increase of 12 per cent. in their wages to offset a reduction made last year.

The mill of the Owen Paper Company, Housatonic, Mass., together with ten tenement houses and a boarding house, was sold on May 11 at public auction to W. B. Reynolds, of New York, for $16,030. Of this sum $3,000 goes to Theodore Geddings, of Housatonic, who held an unsatisfied execution for that amount. A large amount of writing paper was sold to various bidders.

The Uncas Paper Company, Norwich, Conn., has bought all of the machinery in the paper mill of the Embossed Lumber and Fibre Company, New York. It consists of four large steam boilers, three large beaters, pumps, &c., and a Fourdrinier machine 72 inches wide. This machinery will be set up in a building adjacent to the present mill, on a lot recently purchased for such an emergency. The machine will be run on book and writings.

At the annual meeting of the Montague Paper Company, Turner's Falls, Mass., held on May 2, the following named officers were elected: President, B. N. Farren; vice-president and treasurer, W. D. Russell; clerk, E. M. Perry; directors, B. N. Farren, W. D. Russell, Porter Farwell, Charles T. Crocker, Jonathan Buckley, Alex. H. Rice and A. Pagenseicher.

Olin Scott, Bennington, Vt., recently received letters from Sweden asking for estimates as to the cost of a set of wood pulp machinery for a mill in that country. He is also in correspondence with parties in Japan and France relative to furnishing the same machinery for mills in those countries.

The Bennington Machine Works, Bennington, Vt., is building for the Gould Paper Company, Lyons Falls, N. Y., nine New England wood pulp grinders, each of which will be capable of turning out five tons of wood pulp every twenty-four hours. When completed the mill will be one of the largest and best equipped in the State of New York. The grinders are to be completed and shipped by July 1.

The additions to the plant of the Westminster Paper Company, Bellows Falls, Vt., are now completed. The new machine room is 40 feet wide and 185 feet in length, covered with one of the Berlin Iron Bridge Company's patent anti-condensation corrugated steel roofs.

MIDDLE STATES.

It is rumored that the mill of the American Wood Paper Company, Spring City, Pa., which made an assignment over two years ago, will soon be started up.

Part of the second floor of the building 125 Attorney street, New York city, gave way on the night of May 13, just where a quantity of paper and cardboard in bulk, said to weigh 400 tons, was stored. Nearly all of the second floor was used as a factory by the American Co-operative Paper Box Factory.

The Mamaroneck Wall Paper Factory, Mamaroneck, N. Y., will be removed to Brooklyn, N. Y., owing to lack of necessary conveniences in its present location.

The Reading Paper Box Company, Reading, Pa., will begin at once the erection of another story to its factory.

The Racquette River Pulp Mills, Norwood, N. Y., have received a new grinder made by the Cedar Point Foundry, Port Henry, N. Y., and which weighs, complete, 12,000 pounds.

G. F. Brown, manufacturing stationer, has located his factory in Brooklyn, N. Y. The building is a seven story structure, each floor having 13,000 feet floor space, and extends on Bedford avenue from North Tenth to North Eleventh streets.

WESTERN STATES.

The Anderson Paper Company, Anderson, Ind., has started up its mill, the improvements made having increased the capacity one-half.

It is said that the chances for rebuilding the mill of the Columbia Straw Paper Company, at La Fayette, Ind., are not promising.

Work has been resumed at the mill of the Walsh Paper Company, Cuyahoga Falls, Ohio.

The penstock leading to the flume of the Wisconsin River Paper and Pulp Company, Stevens Point, Wis., gave way on May 5, and only rapid exertion prevented loss by the inrushing flood. This company has put in three additional grinders, increasing its capacity for pulp to eight tons daily. The 560 horse power turbine has been set and four wet machines have been put in. The company will begin at once the construction of a brick building 45x100 feet, to be used as a wood preparing room, machine shop and carpenter shop.

The Benton Harbor Board of Trade, Benton Harbor, Mich., has received a proposition for the establishment of a large paper mill in that city. A free site 400x200 feet and exemption from municipal taxation for two years are the considerations asked. If these are granted operations will begin at once.

It is stated that arrangements are being made to establish an extensive plant at Green Basin, Ore., for the manufacture of wood pulp from hemlock timber.

Au Sable and Oscoda, Mich., are reported to be talking about a "jack pine" paper mill. What is a "jack pine" mill?

The building of the Fox River Valley Terminal Railway is assured, the articles of association having been filed with the Secretary of State of Wisconsin. The road will run from Green Bay through the Fox River valley as far as Neenah, with a possibility of its extension to Oshkosh. The financial backers of the railway have organized the American Timber Company, with a capital stock of $500,000 and headquarters at Appleton. They control several million cords of Canadian wood, which will be supplied to the mills in the Fox River valley.

SOUTHERN STATES.

Parties in Norfolk, Va., are urging the location of a paper mill at that point. A large grist mill, having a deep water front, ample motive power, pure water and easy communication by rail and water, is said to be available. This mill is now shut down.

There is a project for building a paper mill in southwest Louisiana, on the line of the Southern Pacific Railway. The people of Westlake want the mill. The contemplated expenditure is $72,000.

The improvements being made by the West Virginia Paper Company at its mills in Piedmont, W. Va., are extensive in character. The additions to the machinery are four stacks of supercalendars, with a large compound engine, four circular paper cutters, a three cylinder paper machine, four steam boilers, two other steam engines, 60 and 250 horse power respectively, two rotary boilers and two washers. A complete plant of the Warren filtration system has been put up by the Cumberland Manufacturing Company, of Boston, a separate building, 50x130x18 feet, having been provided for it. All of the water in the mill, except that passing through the condensers, is supplied by this system of filters, its capacity being from 6,000,000 to 8,000,000 of gallons in twenty-four hours. This vast volume of water is handled and distributed to various parts of the plant by three centrifugal pumps driven by a 150 horse power engine. Luke Brothers, the proprietors of the mills, seems to be determined to reach a high standard in the manufacture of paper, quality as well as quantity being a factor in their production.

Obituary.

JOSIAH PARKER HIGGINS.

Josiah Parker Higgins, paper dealer, Boston, Mass., died suddenly at his home in Hyde Park on Monday, May 13, of heart failure. While Mr. Higgins had been ailing for some weeks and detained at home for a few days, his death was unlooked for.

Mr. Higgins was a native of Bristol, Me., and was fifty-four years of age. He leaves a widow and two young daughters.

During the Civil War he served in the United States Navy, being attached to the gunboat Kennebec in the Department of the Gulf.

His first connection with the paper business was in Chicago with his brother in the early seventies, but, his brother dying, Mr. Higgins sold out the business and returned to Maine, later going into the hardware business at Dexter, Me., from which he retired in a few years.

In 1874 he, with W. N. Snow, bought the retail paper business and store of Dillingham & Co., No. 36 Merchants' row, Boston, and for many years Higgins, Snow & Co. continued together at that place. Three years ago Mr. Snow retired from the firm, Mr. Higgins buying his interest and continuing the business under the same firm name and in the same store up to his death.

Mr. Higgins was a member of the first paper trade association organized in Boston—the first paper dealers' association probably in the country. This Boston association was organized in 1880 after the manufacturers of straw wrapping paper in New York had organized a manufacturers' association. This latter organization sent a committee to Boston to confer with the dealers there as to the the advisability of forming a dealers' association which would act with the manufacturers in maintaining prices on light and heavy straw wrapping papers.

This association of Boston paper dealers was made up of the following named firms: Higgins, Snow & Co., Hollingsworth & Whitney Company, Stimpson & Co., T. S. Osborn & Son, P. C. Bacon, Claflin & Brown and Philbrick & Perkins, and was continued until the failure of the New York Manufacturers' Association to make its organization a success rendered the Boston Dealers' Association unnecessary. Rather than dissolve it was thought best to enlarge its scope, and so the firms in Boston interested in the manufacture or sale of paper were invited to co-operate, and then the Boston Paper Trade Association came into existence. Mr. Higgins was a prominent member of the first organization, and afterward became president of the Boston Paper Trade Association, serving two years.

A meeting of the Boston trade was held on Wednesday morning at the office of Train, Smith & Co. to take action upon the death of their business associate, and the following resolutions were adopted:

WHEREAS, It has pleased Divine Providence to suddenly remove from our midst our associate, the late Josiah Parker Higgins, the Boston Paper Trade Association and the trade in general mourn with unfeigned sorrow the loss of one of their active and earnest associates. His sound judgment, genial disposition and uncompromising adherence to principle won our respect and friendship. We desire to record our appreciation of his ability and worth as a man and the deep sense of the loss that has befallen us by his decease.

Resolved, That, fully appreciating his high character and manly qualities, we tender to his grief stricken family our heartfelt sympathy.

These gentlemen were delegated to represent the trade at the funeral: J. Richard Carter, Charles A. Dean, H. M. Whitney, Edward H. Haskell, Geo. W. Wheelwright and Jas. B. Forsyth.

The burial services and funeral were held at Hyde Park on Friday afternoon, May 17.

ASA SHULER.

Asa Shuler, a prominent felt manufacturer, and a member of the firm of Shuler & Benninghoffen, Hamilton, Ohio, died on Sunday, May 12, at the age of seventy-three, after an illness of more than a year. He was president of the First National Bank of Hamilton, and served on the Board of Water Works for a period covering twelve years. Mr. Shuler was honored and respected, and the trade loses a member whose worth has been attested by noble deeds. He was reputed to be worth $500,000. A widow and five children survive him.

John J. Levy, manufacturer of playing cards, New York city, is dead.

An expert Maine woodsman declares that the cutting of small trees for pulp wood in the manner now practiced means the extermination of the spruce. These trees, he declares, maintain themselves in the fierce forest competition for subsistence not by the extent of their roots, but by their thick foliage, which by its shade keeps other trees ot a distance. In the "cut down," and even where the larger trees are "thinned out" only, the new growth is usually of other varieties, poplars, birch and maples, which seize on the opportunity and pre-empt the ground. The struggle for the occupation of the soil is fierce and relentless, and cutting will have to be done with great circumspection if the spruce growth is expected to hold its own.

THE
"Hamilton"
Felt.
"Best and Most Economical Made."
The Longest Runs
are always made with the "Hamilton." Once accustomed to its use, you will buy no other. Prices as low as inferior makes are sold at.
In ordering mention kind of stock used, quality of paper made and speed of machine.
Shuler & Benninghofen, Hamilton, O.

The W. S. Tyler Wire Works Co.,
CLEVELAND, OHIO.
MANUFACTURERS OF
FOURDRINIER WIRES,
Cylinder Faces and Washer Wires.

The Van Denbergh Laboratory.
F. P. VAN DENBERGH, B.S., M.D., F.C.S. R. A. WITTHAUS, A.M., M.D. Consulting. ISAAC KEMOK, Ph.D.
CHEMICAL ENGINEERS, ANALYSTS AND INDUSTRIAL CHEMISTS.
Analyses, processes and counsel in sulphite, pulp and paper manufacture. Ten years Chemists to the City of Buffalo, and Professors of Chemistry University of Buffalo.
LABORATORY: Erie County Bank Building, Niagara and Main Sts., BUFFALO, N. Y.

THE GENERAL FIRE EXTINGUISHER COMPANY,
CONTROLLING THE INVENTIONS AND APPARATUS
PERTAINING TO AUTOMATIC SPRINKLERS OF
Frederick Grinnell, William Neracher, John Hill, William Kane and others.
INFORMATION AND PROPOSALS FURNISHED AT THE SEVERAL DEPARTMENT AGENCIES, NAMELY:
NEW YORK: 413 Broadway.
PHILADELPHIA: Mutual Life Building.
CHICAGO: Pullman Building.
CLEVELAND: Society for Savings Building.
BOSTON: 173 Devonshire Street.
BUFFALO: City Bank Building.
ST. LOUIS: Rialto Building
Also at WARREN, OHIO, and COLUMBUS, GA.
AND AT THE
EXECUTIVE OFFICES, PROVIDENCE, R. I.

Noble & Johnston Machine Co.,
Aloosick Falls, N. Y.,
Manufacturers of
Paper Mill Machinery.
Jordan & Beating Engines.
Iron or Wood Tubs, Laid or Steel Bars and Knives. Bed Plates and Jordan Fillings of every description a specialty. Correspondence solicited.

HOLLINGSWORTH & WHITNEY CO.,
MANUFACTURERS OF ALL GRADES OF
Manilla Papers AND Pure Fibres.
PROPRIETORS OF
TACONNET PAPER MILLS, WINSLOW, ME.....Product. 40 tons Manilla Paper daily.
AROOSTOOK MILLS, GARDINER, ME.....Product: 8 tons No. 1 Manilla daily.
COBBOSSEE MILLS, GARDINER, ME.....Product: 10 tons No. 1 Manilla daily.
PEQUOSSETTE MILLS, WATERTOWN, MASS.....Product: 12 tons No. 1 Manilla daily.
TACONNET PULP MILLS, WINSLOW, ME.....Product: 50 tons Wood Pulp daily.
Boston Office:
44 FEDERAL STREET.
New York Office:
207 BROADWAY.

Failures.

Joseph Hutton, stationer, &c., Smith's Falls, Ont., has made an assignment.

L. L. Babcock, printer and publisher, Old Lyme, Conn., has made an assignment.

Lauren P. Gardner, paper dealer, Rochester, N. Y., has made an assignment. Liabilities about $7,000, which are nearly covered by the assets.

The *Daily Journal*, Plattsmouth, Neb., suspended publication on April 28, the plant having been taken possession of to satisfy a mortgage of $550.

W. G. E. Lee has been appointed receiver for the Eastern mills of the Columbia Straw Paper Company, of Chicago, Ill., by Chancellor McGill, of New Jersey.

The assignee of O'Brien Brothers & Co., paper manufacturers, Lambertville, N. J., gives notice that all claims against the firm must be filed on or before July 15, 1895.

The University Press, Cambridge, Mass., is shortly to resume its work as a corporation, with John Wilson as president and Henry A. White as treasurer. The creditors of the firm of John Wilson & Son have accepted a cash payment of 25 cents on the dollar. The old name will be retained.

Accidents.

William Swab recently had three fingers of his right hand crushed by a roller at the mill of H. F. Watson & Co., Erie, Pa.

Joseph Feduske, employed at the mill of the Howard Paper Company, Menasha, Wis., slipped from the edge of a beater and had his foot badly cut by a revolving set screw.

Personals.

George W. Millar, of G. W. Millar & Co., will sail for Europe to-day on the Lucania, accompanied by Mrs. Millar.

C. Vanderhaeg, of Roulers, Belgium, who has been on a short visit to this country, will sail for home to-day on La Touraine.

George Pauline, of Robert Fletcher & Sons, England, who has been on a business trip here, will sail for home to-day on the Lucania.

William Jackey, who for the past five years has been with C. B. Hewitt & Brother, will begin an engagement with R. H. Overton & Son on Monday next.

R. D. Ingram has purchased the Lysle patent for creping sulphite dress linings and drying them on the machine. He will put the goods on the market next week.

Oliver M. Nash, who recently had charge of the coating department of the Chelsea Paper Company, which employment he left to engage in farming, had the ill luck to get burned out on his farm. He has returned to Norwich, Conn., and re-entered the employ of the company in his former capacity.

In Town.

Thomas Duncan, Hartford, Conn.; John Duncan, Mechanicsville, N. Y.; James Symington, Lancaster, Pa.; W. S. Royce, Fulton, N. Y.; C. H. Southworth, South Hadley Falls, Mass.; H. C. Hurlbut, South Lee, Mass.; G. E. Crafts, Holyoke, Mass.; S. D. Beach, Seymour, Conn.; A. D. Remington, Watertown, N. Y.; J. R. Dohan, Philadelphia, Pa.

Tariff Decisions.

The Board of General Appraisers has rendered the following decision:

Theo. Tiedemann & Brother *v.* Collector at New York—Calender rollers, assessed at 45 per cent. under paragraph 215, act of 1890, and claimed to be dutiable at 25 per cent. under paragraph 425. The Board found that paper is chief value in the merchandise under consideration and sustained the protest.

General Notes.

Only one bid was received for the distinctive paper for bank notes, drafts, checks, &c., at the Treasury Department on May 16. Crane & Co., of Dalton, Mass., offered to supply the paper at 43½c. per pound for bank note and 38½c. per pound for check.

The Public Printer has rejected some of the paper delivered under the annual contract, and the bidders concerned, W. H. Parsons & Co., of New York, and W. J. Thompson, of Boston, have appealed from the action. There is to be an analysis of the material used to determine whether the paper is made in accordance with the specifications.

The Smith & White Manufacturing Company, Holyoke, Mass., has got out a picture of the Holyoke dam, with the water pouring over it at a height of 10 feet 4 inches, as it appeared on April 17, 1895. This is an attractive picture, and will remind the members of the trade to whom it is sent that Holyoke is the "Paper City," and that the Smith & White Manufacturing Company is, by virtue of its location, at the focal point for manufacturing pads, tablets, composition books, blanks, &c.

WANTED—BY A YOUNG MAN, POSITION as superintendent in paper mill; good experience in envelope and fine writing papers; best references. BOX 154, South Hadley Falls, Mass.

The second floor of an old building at 125 Attorney street, New York, collapsed at 5:30 P. M., on May 13, under the weight of 400 tons of paper and cardboard stored in it by the occupant, the American Co-operative Paper Box Company; but as there was no one working in the paper box factory at the time no one was hurt.

Legal Decisions.

[SPECIALLY REPORTED FOR THE PAPER TRADE JOURNAL.]

What Is Not a Guaranty.—A note addressed to a person, asking him to "let M. have what goods he requires, and oblige," is not a guaranty, but an original undertaking to become liable for such goods as might be delivered to M.—*Buckingham v. Murray, 30 Atlantic Rep., 779 (43).*

Construction of a Contract.—Where the terms of a verbal contract, which was admittedly made, are disputed by the contracting parties, and the evidence is evenly balanced, the terms that are most just should prevail.—*Smiley v. Gallagher (Supreme Court Penn.), 30 At. Rep., 713 (36).*

Illegal Preference by Insolvent.—Where an insolvent trading firm which is unable to pay its debts in the usual course of business sells its stock, and immediately returns part of the price to the purchaser to cancel a prior debt due him, such repayment is an illegal preference which constitutes an act of insolvency.—*Willison v. First Nat. Bank (Ct. App. Md.) 30 At. Rep., 749 (55).*

Liability of Loan Agent.—An agent to negotiate loans who, at the time a loan was negotiated, had sufficient money in his hands belonging to his principal to pay the loan, and who is directed by the principal to pay it, becomes personally liable to the borrower where the latter has delivered to him the security.—*Mathonicon v. Scott (Supreme Ct. Tex.), 28 S. W. Rep., 1063 (68).*

What Constitutes a Chattel Mortgage.—A contract for the sale of personal property which provides that the title shall remain in the vendor until the price is paid, and that in case of default in any of the several payments all payments shall at the option of the vendor become due, and the property may be retaken by him, is a chattel mortgage for the payment of the price.—*Perkins v. Loan and Ex. Bank (Supreme Ct. S. C.), 20 S. E. Rep., 759 (67).*

Confessions of Judgment.—The Supreme Court of Wisconsin says it seems to be well settled that even if the affidavit which is attached to the complaint on which judgment is confessed is defective and insufficient, yet the judgment is not void, but only voidable, and that in the absence of equities on the part of the debtor it will not even be set aside on motion, and that creditors are in no better position to take advantage of the error than is the debtor himself.—*Mayer B. & S. Co. v. Falk, 61 N. W. Rep., 562 (85).*

Parol Evidence Admissible to Explain Written Order.—When negotiations between the seller's agent and the buyer are conducted orally and by presentation of samples and a written order is given by the buyer, evidence of the conversation between the agent and the buyer at the time the order was given is admissible, as the order is only a part of the contract.—*Grand Rapids Veneer Works v. Forsythe (S. Ct. N. Y.), 31 N. Y. Sup. Rep., 601 (63).*

Rights of Bona Fide Holders of Notes.—A bona fide holder of a note for value can recover upon it, though he took it under circumstances which ought to excite the suspicion of a prudent man that the payee obtained it by fraudulent representations. The fact that a negotiable note, which was obtained by fraud, was taken by the holder under such circumstances will not defeat recovery. It must be shown it was taken mala fide.—*Nat. Bank v. Morgan (Supreme Ct. Penn.), 30 At. Rep., 957 (74).*

Patents on Machinery.—A party is entitled to all of the legitimate results of the invention covered by his patent, including even those which were not foreseen by him. Changes of form do not avoid infringement when the two devices do the same thing in substantially the same way and accomplish the same result.—*Thomson Meter Co. v. National Meter Company (U. S. Cir. Ct. App.), 65 Federal Rep., 427 (53).*

Fraudulent Conveyances Between Partners.—Members of a partnership cannot create in favor of another firm of which they are the sole members a preference, as against creditors, by making a mortgage on the property of the first mentioned firm, in its name, to that last named, unless it is clearly shown, affirmatively, that the transaction was free from fraud; and the assignment of an account afterward secured by such a mortgage entitles the assignee to no exemption from the operation of this requirement.—*Benwit v. Heyman (Supreme Ct. Neb.), 61 N. W. Rep., 716 (85).*

Proof of Fraud in Suit for Price of Goods.—One who undertakes to impeach a written instrument, as having been procured by fraud, must establish the fraud by clear and satisfactory evidence. An answer which alleges that the agent of the party suing for the price of goods drew up a contract and read it over to the party purchasing, who believing that the instrument was as read, executed it, and the answer sets out the difference between the instrument signed and the one which he supposed he was signing, sufficiently shows that the contract was procured by fraud.—*Lithographing Co. v. Houppert (Supreme Ct. Ala), 16 So. Rep., 522 (98).*

A New Business Corporation Law.

Nearly all of the certificates of incorporation of stock concerns which have been presented for filing with the Secretary of State of New York lately have been rejected because of their failure to comply with the requirements of the Ainsworth bill, recently approved by the Governor, amending the Business Corporations law, relating to incorporation, restrictions, reorganization, consolidation, &c. Following is the text of the new law:

Section 1. Section 7 of the Business Corporations law is repealed. The several parts and sections of the Business Corporations law corresponding to those hereinafter specified are amended to read respectively as follows:

Section 1. Short title and limitation of chapter. This chapter shall be known as the Business Corporations law.

Sec. 2.—Incorporation.—Three or more persons may become a stock corporation other than a moneyed or a transportation corporation for any lawful business purpose or purposes, except a business partaking of the nature of banking or insurance, by making, signing, acknowledging and filing a certificate which shall contain:

1. The name of the proposed corporation.
2. The purpose or purposes for which it is to be formed.
3. The amount of the capital stock and if any portion be preferred stock the preferences thereof.
4. The number of shares of which the capital stock shall consist, each of which shall not be less than $5 nor more than $100, and the amount of capital not less than $500, with which said corporation will begin business.
5. The city, village or town in which its principal business office is to be located.
6. Its duration.
7. The number of its directors, not less than three nor more than thirteen.
8. The names and post office addresses of the directors for the first year.
9. The post office addresses of the subscribers and a statement of the number of shares of stock which each agrees to take in the corporation.

The certificate may contain any other provision for the regulation of the business and the conduct of the affairs of the corporation and any limitation upon its powers and upon the powers of its directors and stockholders, which does not exempt them from any obligation or from the performance of any duty imposed by law.

Sec. 3. Restrictions upon commencemt of business—No such corporation shall incur any debts until the amount of capital specified in its certificate of incorporation, as the amount of capital with which it will begin business, shall have been paid in in money or property.

Sec. 4. Reorganization of existing corporations—Any stock corporation heretofore organized, except a moneyed or transportation corporation, or a corporation the business of which partakes of the nature of banking or insurance, may reincorporate under this charter in the following manner: The directors of the corporation shall call a meeting of the stockholders thereof by publishing a notice, stating the time, place and object of the meeting, signed by at least a majority of them, in a newspaper of the county in which its principal business office is situated once a week for at least three successive weeks, and by serving upon each stockholder, at least three weeks before the meeting, a copy of such notice, either personally or by depositing it in the post office, postage prepaid, addressed to him at his last known post office address. The stockholders shall meet at the time and place specified in the notice and organize by choosing one of the directors chairman, and a suitable secretary, and shall then take a vote of those present in person or by proxy upon the proposition to reincorporate under this chapter, and if votes representing a majority of all the stock of the corporation shall be cast in favor of the proposition, the officers of the meeting shall execute and acknowledge a certificate of the proceedings, which certificate shall also contain the statements required by Section two of this chapter, and shall be filed in the office where certificates of incorporation under this chapter are required to be filed. From the time of such filing such corporation shall be deemed to be a corporation organized under this chapter, and if originally organized or incorporated under a general law of this State, it shall have and exercise all such rights and franchises as it has heretofore had and exercised under the laws pursuant to which it was originally incorporated, and such reorganization shall not in any way affect, change or diminish the existing liabilities of the corporation.

Sec. 5. Consolidation of corporations.—Any two or more corporations organized under the laws of this State for the purpose of carrying on any kind of business of the same or of a similar nature, which a corporation organized under this chapter might carry on, may consolidate such corporations into a single corporation, as follows: The respective corporations may enter into and make an agreement signed by a majority of their respective boards of directors and under their respective corporate seals, for the consolidation of such corporations, prescribing the terms and conditions thereof, the mode of carrying the same into effect, the name of the new corporation, the number of directors who shall manage its affairs, not less than three nor more than thirteen, the names and post office addresses of the directors for the first year, the term of its existence, not exceeding fifty years, the name of the town or towns, county or counties, in which its operations are to be carried on, the name of the town or city and county in this State in which its principal place of business is to be situated, the amount of its capital stock, which shall not be larger in amount than the fair aggregate value of the property, franchises and rights of such corporations, and the number of shares into which the same is to be divided, the manner of distributing such capital stock among the holders thereof, and if such corporations, or either of them, shall have been organized for the purpose of carrying on any part of its business in any place out of this State, the agreement shall so state, with such other particulars as they may deem necessary.

Sec. 6. This act shall take effect immediately.

Paper Coating Machine.

A recent improvement in paper coating machines is designed to provide an apparatus wherein sheets of paper or like material will be automatically clamped to a carrier, conveyed to the color carrying and applying mechanism, held from buckling when coated, automatically released from the carrier at a given point in its travel, and automatically elevated when released, whereby the colored and coated sheets may be mechanically removed from the carrier.

The wet sheets are automatically removed from the coloring or coating section and made to travel through any desired number or runs, even when one run is above or beneath the other, the travel through the runs being accomplished automatically, the sheets hanging in a pendent position throughout the entire drying operation.

The carriages or conveyors for the sheets are so constructed that they may be arranged close together without interfering one with the other, and a clip for the carriages or conveyers which will not injure the sheets as they automatically grip them, and from which the sheets may be conveniently and expeditiously released, is provided.

When the sheets are removed from their carriages or conveyors, the latter are automatically directed to the coloring or coating section of the machine and automatically receive another sheet or sheets to be dried; and the coating and drying of the sheets is carried on without in the least marring the uncoated surface if the coating is upon one side only.

Corrosion is accelerated by increase of temperature and near the boilers has a considerable effect in increasing rapidity of rusting. Also in the coal bunkers, the mere contact of moist coal with iron plates sets up galvanic action, carbon being electro-negative to iron, and the coal dust which sifts into the double bottom aids to the destruction; if the coal contains pyrites, which is nearly always the case, then double sulphides of iron and copper are oxidized into soluble sulphates of the metals, and these, washing down into the bilge water, would cause serious corrosion should they come in contact with bare plates.—*M. P. Wood.*

BOSTON.

(*Continued from page 463.*)

ments, but last fall it was unable to fill orders as promptly as wished, although the factory was run nights to keep up with the orders.

An effort was made to interview Benjamin M. Jackson, of Linton Brothers & Co., Pawtucket, R. I., whom the writer chanced to meet last week, but, as usual, Mr. Jackson showed his natural disinclination to talk about business when an order was not in sight. Given a buyer of cardboards and with samples in hand Mr. Jackson is all business. Yet he will talk horses at any time. While Mr. Jackson would not talk for publication, the fact was evident that he had little to complain of from a business point of view. He was in the best of cheer, a condition which few men present when their business doesn't run smoothly. If this deduction is not correct then Mr. Jackson is at liberty to refute the statement.

H. Estes Wright, traveling representative of Pulsifer, Jordan & Co., has been spending a couple of weeks in town. He will leave the city to-morrow night for a trip West and to the South, to be gone some ten weeks. Mr. Wright is personally acquainted with the trade of twenty-seven States, and it takes quite a time for him to cover his territory.

Frank S. Thayer, manager of Carter, Rice & Co.'s Denver paper house, left for his Western home last Saturday after a two weeks' stay in this city.

Trade representatives reported in town the past week were: Ex-Gov. Cheney, Frank P. Carpenter, of Manchester, N. H.; Mr. Bartlett, of Nashua, N. H.; E. H. Stearns, of Unionville, Conn.; Mr. Burke, of Rockville, Conn.; Mr. Fitchpatrick, of New Haven, Conn.; Hon. Wellington Smith, Geo. K. Baird, of Lee, Mass.; C. H. Southworth, of South Hadley Falls, Mass.; G. M. Holbrook, of Springfield, Mass.; Sam Rust, of Holyoke, Mass.; Fred Temple, of Pepperell, Mass.; Chas. S. Mayo, of Lawrence, Mass.; C. M. Burnett, of Turner's Falls, Mass.; John D. Carson, of Dalton, Mass.; Willis Howes, of Lockport, N. Y.; W. C. Clarke, Alfred Peats, Mr. Johnson, N. K. Bigelow, Mr. Briggs, Leon Gottheil and Adolph Solomon, of New York; A. Strich, of Berlin, Germany.

J. B. Forsyth will go to Plantsville, Conn., this week on a fishing trip, guest of L. V. Walkley, of S. O. S. bag fame.

The Boston Paper Trade Association will hold a summer reunion some time during the latter part of June. Arrangements for the meeting, which will be in the nature of an outing down the harbor, are now being perfected.

Robert C. McQuillen, of the A. Storrs & Bement Company, accompanied by Mrs. McQuillen, will spend the summer in Europe. Mr. and Mrs. McQuillen will sail from Boston on the Cephalonia on Saturday, May 25. Going abroad on pleasure, they will visit the leading places of interest and enjoy the attractions of foreign lands as they present themselves during the tour.

The mill of the Finlay Paper Company, at Newton Lower Falls, Mass., some 12 miles out from this city, on the Boston and Albany Railroad, was burned last Monday morning. The fire, it is said, resulted from the upsetting of a lamp in the basement. The mill was an old time structure, originally built when Newton Lower Falls was the leading paper manufacturing town of the country, but since then the property has changed hands many times, the Finlay Paper Company buying the plant from A. C. Wiswell & Sons some three years ago. The mill has been running on manilla tissue, capacity 2½ tons a day. The fire destroyed all but the machine room. The loss is estimated at $5,000, which is partly covered by insurance. The mill will be rebuilt.

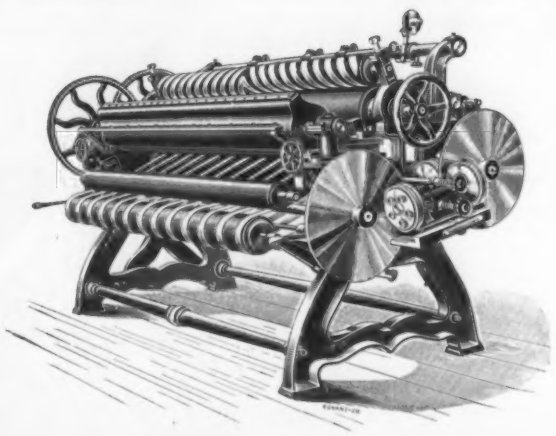
Paper valued at $1,464 and books valued at $1,373 were exported from Boston during the week ended May 10.

DELESDERNIER.

Advantages of Electricity for Heating.

The advantages of electricity for heating are gradually becoming more appreciated. *Electricity* notes that a manufacturer in the South of France proposes to employ water power for heating his factory, thus saving 30,000 frs. per annum in fuel. In South America an electric drying machine in which air is forced through a chamber of heated plates, and comes out as a hot blast, is to serve in drying wheat, the current to be generated by waste water power.

Other plans proposed are electric heat for ammunition caps, and the electric soldering irons to be employed in a gunpowder factory, where the irons must not get hotter than 450° Fahr. Probably the most curious application now being arranged is one to prevent the freezing of tower clocks. Such clocks in exposed places, as is well known, often get clogged with snow and ice in the winter, and this is to be remedied by placing an electric hot plate on the top or side of the clock.



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IS IN ADVANCE OF ANY CUTTER IN USE TO-DAY.

WE HAVE EIGHT RUNNING IN ONE FINISHING ROOM.

AFTER USING ONE SEVEN MONTHS **A CUSTOMER SAYS:** *"You have the Perfect Cutter. We are sure it will save its cost in one year in the saving of waste paper alone."*

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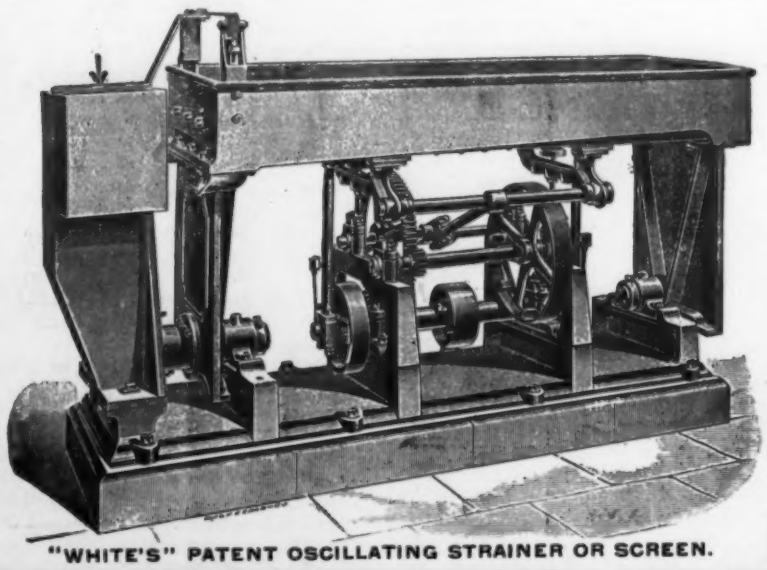

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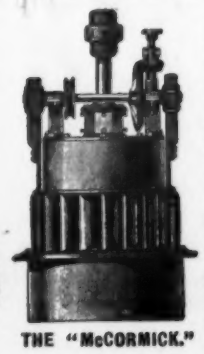

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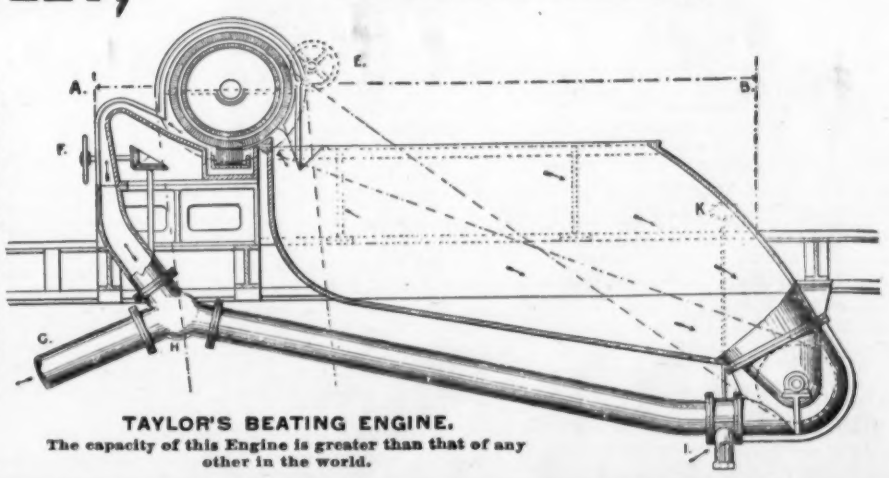

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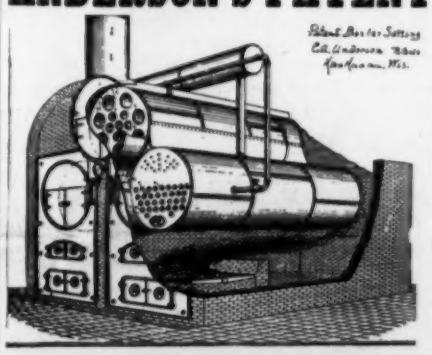

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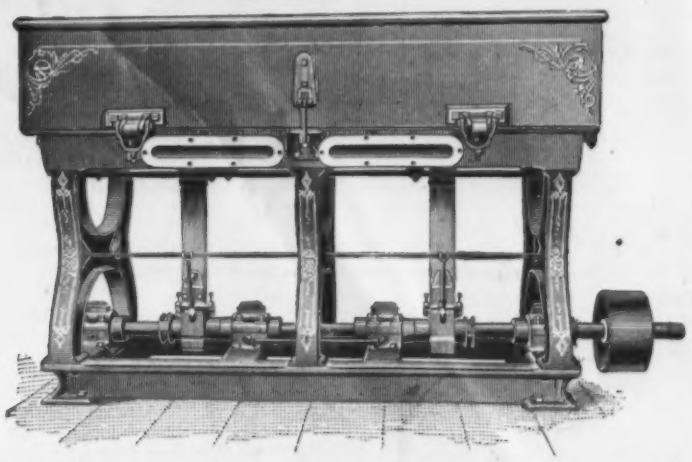

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		Herkimer Paper Co., Herkimer, N. Y.	2
		Winnipisiogee Paper Co., Franklin, N. H.	2
		Jas. Ramage Paper Co., Monroe Bridge, Mass.	1
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		Syms & Dudley Paper Co., Watervliet, Mich.	2
		The Little Chute Pulp Co., Little Chute, Wis.	6
		Niagara Falls Pulp and Paper Co., Niagara Falls, N. Y.	1
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		Atlas Paper Co., Appleton, Wis.	1
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		The Wanaque River Pulp and Paper Co., Wanaque, N. J.	2
		Nekoosa Paper Co., Nekoosa, Wis.	7
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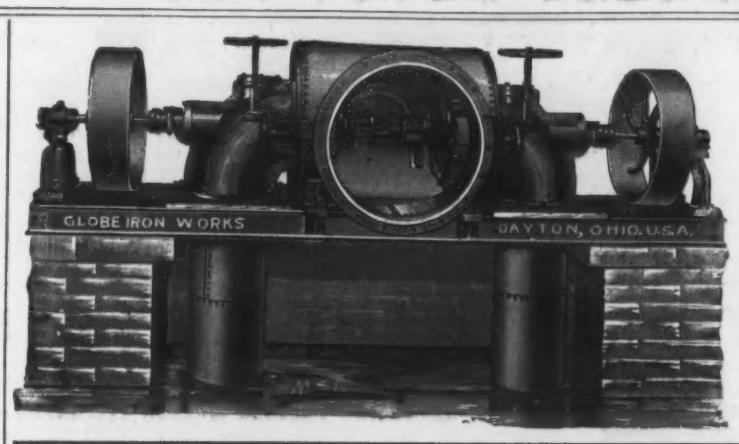

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The originals of these certificates and tests of other sized wheels can be seen at our office.

TEST OF A 45 INCH WHEEL—JULY 9, 1894.

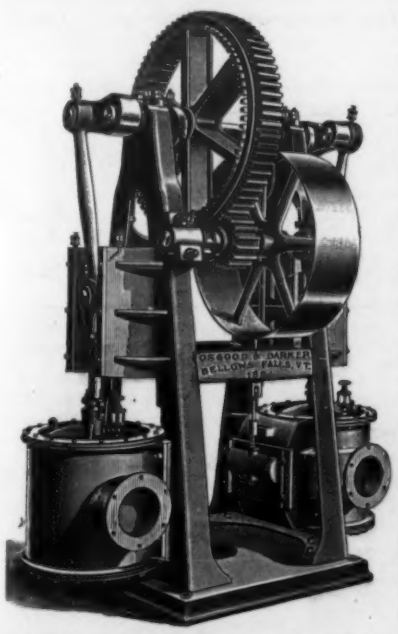
	Head.	Rev. per Min.	Cu. Ft. per Sec.	Horse Power.	Per Cent.
Whole Gate,	16.06	119.17	141.58	205.27	79.76
¾ "	16.42	122.00	127.18	195.19	82.58
¾ "	16.78	117.33	112.60	175.74	82.18
⅝ "	17.02	111.33	98.12	149.99	79.31
½ "	16.88	118.67	82.07	118.40	75.52

TEST OF A 42 INCH WHEEL—JULY 14, 1894.

	Head.	Rev. per Min.	Cu. Ft. per Sec.	Horse Power.	Per Cent.
Whole Gate,	16.33	128.00	134.19	199.56	80.50
¾ "	16.56	134.80	120.85	188.14	83.09
¾ "	16.59	129.33	104.85	162.89	82.77
⅝ "	17.13	125.25	92.76	142.40	79.21
½ "	17.48	121.00	70.80	98.66	70.60

For information and catalogue write

THE DAYTON GLOBE IRON WORKS CO., Dayton, Ohio, U. S. A.



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Weight, Four Tons.

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MANUFACTURERS OF

Sulphur Burners,
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FOR SULPHITE PLANTS.
Fourdrinier and Cylinder Paper Machines,
With one, two, three or four stacks of dryers.
Upright Reels, with two or three Drums,
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For buffing ends of the rolls.
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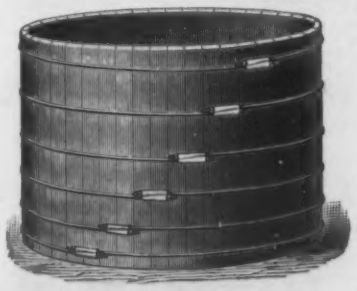

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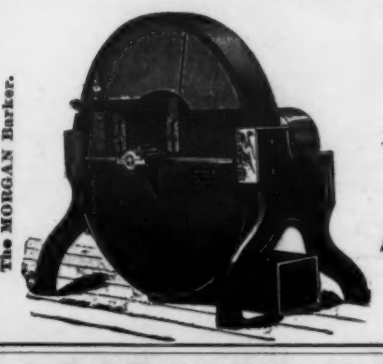
APPLETON, WIS.,

—MANUFACTURERS OF—

The New Frambach and Badger Pulp Grinders,

The MORGAN Splitter.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Wood Barkers,
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and
Wet Machines.

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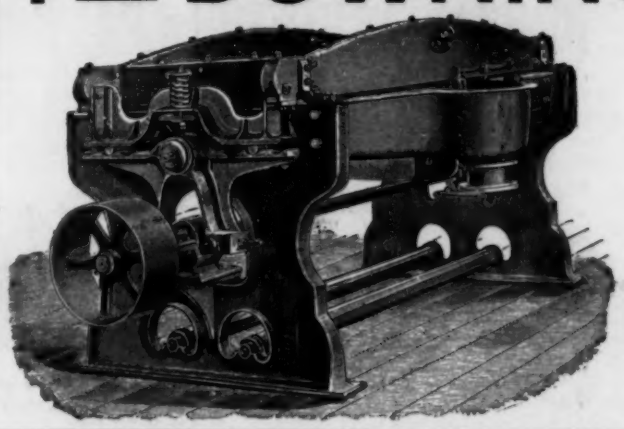

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This Screen has only to be seen at work to be appreciated.

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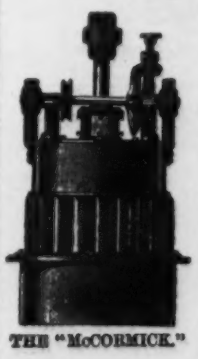
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The McCORMICK Turbine gives more power per diameter with a higher percentage of useful effect from the water used than any other water wheel heretofore made. All sizes, both right and left hand, tested in the Holyoke testing flume.

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THE McCORMICK and SUCCESS TURBINES are especially adapted for driving Paper and Pulp Mills and are extensively used by the largest manufacturers in the United States and Canada. Parties using wheels which are unsatisfactory and those contemplating the improvement of powers will find it to their interest to confer with me, as I am willing to guarantee results where others have failed, no matter what make of turbines has been tried.

State requirements and send for catalogue.

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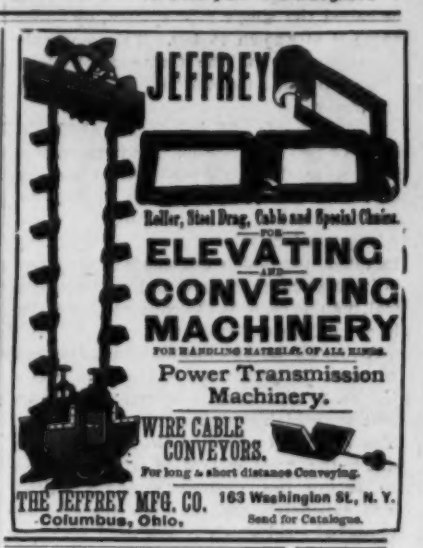

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THE UTILITY PAPER CO.

[Copy.]

Hartford City, Ind., April 6, 1895.

UNION STEAM PUMP CO., Battle Creek, Mich.:

Gentlemen:—Enclosed find check for pump. If your pump continues to do its work as satisfactorily as it has so far, we would rather pay the price for your pump than to take and use any other pump we now have in the mill as a gift. If it continues to work as it has we will have no other pump in our mills. Yours truly, THE UTILITY PAPER CO.

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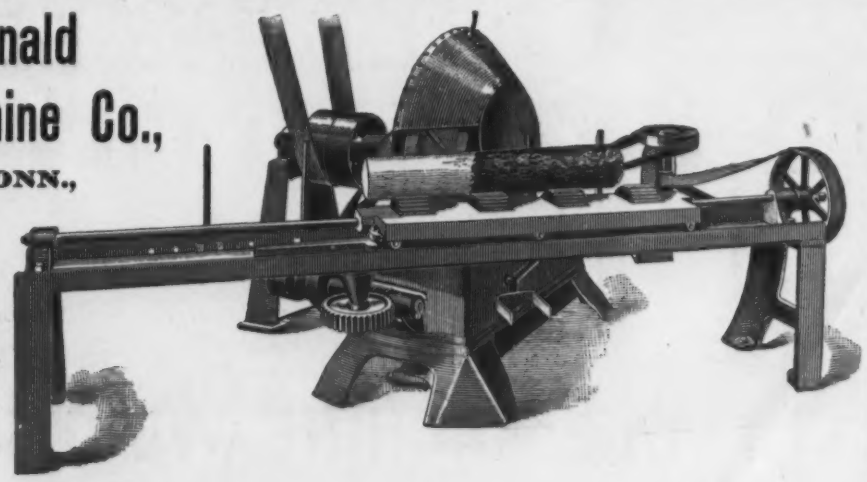
Great saving of Labor, Wood, Power and Time.

Peels equally well running backward or forward.

Wood peeled in 4 foot lengths saves Power, Time, Sawdust, Splinters, &c.



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Insurance against loss or damage to property; also against loss of life and injury by Steam Boiler Explosions.

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Wire Rope and Its Uses.

(Continued.)

While considering any special department of modern engineering practice it is always interesting as well as instructive to trace its historical development and note the steps by which the present perfection has been reached. We have been examining the various systems of wire rope tramways now in use, and considering the advantages of each and the particular duty for which it is best adapted. We will now point out the course by which these results have been attained.

The earliest record that we have of any system of aerial transportation which in the least resembles our modern methods is that of an aerial tramway constructed at Ringwood, N. J., in 1855 by Peter Cooper. This was used to convey ore from the mines to the blast furnace at that place. The line was operated by gravity, the incline being considerable. Wire rope was not at that time on the market, so a wire rope tramway was out of the question, and probably the idea of such a tramway was not considered. Mr. Cooper made use of an endless iron rod three-eighths of an inch in diameter. This ran over grooved sheaves in much the same way as the rope in our modern constructions. Owing to the lack of flexibility of the iron rod, the terminal sheaves were required to be of very large diameter. A series of buckets was suspended from the rod by means of curved hangers which were shaped in the form of goosenecks, in order to allow them to clear the flanges of the sheaves. This tramway was operated for some time with great success.

It was not long after the construction of this line that the use of wire rope became more general, and its adaptability to the construction of aerial tramways was recognized. It appears that the first use of wire rope for transportation purposes was by the famous bridge builder John A. Roebling, who used it in the construction of suspension bridges. The pioneer, however, in wire rope transportation to whom we are most indebted is Charles Hodgson, of Richmond, England. He obtained letters patent in 1868 for wire rope tramways, in many important respects similar to those now so extensively used. In these letters patent he describes two systems, one of which he calls the "fixed rope" system, which consists of two stationary carrying ropes from which the load is suspended by wheeled carriages, which he called "running blocks."

These running blocks were attached to an endless moving rope, either permanently or by means of clutches. This it will be seen has all the essential elements of the modern two rope system of which we have written. The second system described by Hodgson he called the single rope system, by which name it is known to-day. This was only a modification of the tramway of Peter Cooper by the substitution of wire rope for the iron rod.

Although Mr. Hodgson described the fixed or two rope system first in the patent referred to, the single rope system was the first to come into extensive use, perhaps for the reason that in the early days of aerial transportation only short lines were attempted, for which the single rope system is in most cases the best and most economical, both as regards the construction of the line and the subsequent use.

Although the first line that was constructed under the patent of Mr. Hodgson was a failure, he afterward built many tramways that were highly successful in every way. The failure of many of the first lines was due to the great weight of wire necessary to secure the desired strength. Steel was expensive, and the high grade, mild-tempered steel which is now used for ropes for this purpose was so expensive as to preclude its use. Steel of this nature is now so cheap that the price of steel rope is only slightly higher than that of iron rope of the same diameter. Steel ropes are, however, somewhat less flexible than iron ropes of the same diameter, and for that reason iron ropes are used in many places where steel would otherwise have the preference.

Since the construction of rope tramways by Hodgson great improvements have been made, but only in the details of construction and operation, the essential features remaining the same.—*Industrial Record.*

Safety Valves.

A safety valve is all right, so long as it is in good working order, in preventing the explosion of a boiler from over pressure of steam—that is, a higher pressure than a calculation of the boiler shows it is able to withstand. A safety valve will not protect a boiler against a sudden increase of pressure, neither will it have any effect in insuring safety of the boiler against the strains produced by expansion and contraction, nor such as are due to faulty setting, overheating, or others which are liable to occur, such as reduced strength, due to wasting away of the metal forming the plate, through corrosion, or cracks in the sheets produced by poor workmanship while the boiler is in process of construction.

Within the safety valve itself are many elements of danger if the valve is not properly cared for. Such danger will occur in a greater or less length of time, according to the conditions of operation of the plant and numerous other things peculiar to individual plants.

A great number of safety valves have been designed to suit the different conditions of working, all of which have been of more or less utility—while in order—and have tended to give a feeling of security that otherwise might not have existed. The old deadweight valve, where weights were placed on top of the valve stem, served a purpose while low pressures were the rule, but has long since gone out of use and is seldom or never seen in modern boiler practice. At the present time there are several kinds of safety valves in use which are relied on implicitly, the amount of faith shown for them being something wonderful to behold, in view of the many things that will put them out of order, or at least impair their proper working.

The old open top safety valve with lever and weight combines the elements of safety with least liability of derangement, but the great objection to these is that when they act the engine room is filled with steam. That is distasteful to the engineer, for the water from the condensed steam will drop down on to the persons and machinery in the room and will soon mar the beauty of the bright work, spot the paintless surfaces, and the moist places will catch the flying ashes and dust which occasionally fill the room. An engineer never likes this, so a closed in valve had to be provided.—*Boston Journal of Commerce.*

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Paper Stock.
J. & W. SMITH,
DUNDEE, Scotland,
Packers and Shippers of
Clean Jute Threads, Clean Jute Ropes, Gunny Bagging, Manilla Ropes, Bleached Linen Cuttings and Bleached Linen Threads.
ENGINE CLEANING WASTES,
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OFFICES:
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Substitute for Fire Brick.

A correspondent of the London *Colliery Guardian* says: On account of the difficulty of obtaining fire bricks of uniform quality, except from Great Britain, M. Bebois-Reuleaux has devoted considerable attention to finding a substitute at lower cost. After many experiments he has succeeded in obtaining an infusible product containing from 95 to 98 per cent. of pure silica, which mixed with another product is said to insure perfect homogeneity, and at the same time absolute infusibility.

The raw materials, which are found abundantly in several of the French departments, are so cheap that the bricks may be produced at half the cost of English for an equal quality. Some of these bricks tried in a blast furnace, at the hottest place, are reported by the manager to have stood thoroughly; and in the bridge of a puddling furnace, where only English bricks can withstand the heat, the new bricks were found quite satisfactory, as also in the bridge of a heating furnace worked for thirteen hours continuously. At some steel works, moreover, a half brick of the new manufacture was exposed during a whole day in a Siemens-Martin furnace, and was taken out without having undergone any change, and with the corners still sharp.

THE ESTY AUTOMATIC SPRINKLER

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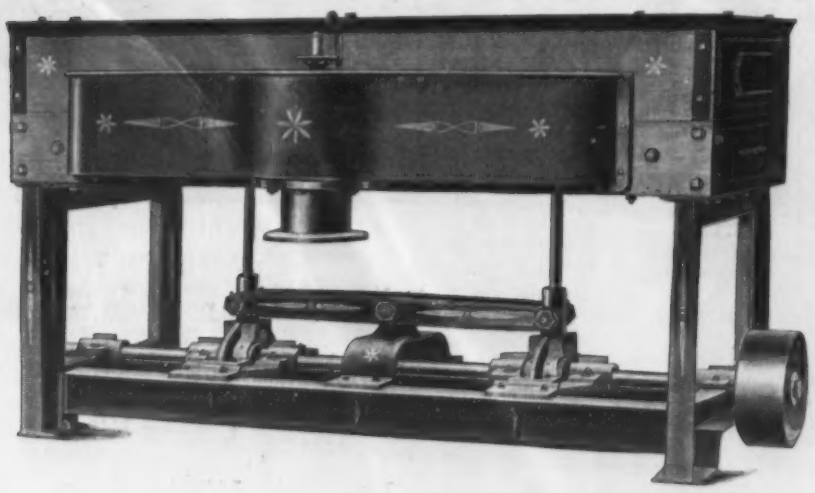

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Natural Soda Deposits of the United States.*

By Dr. Thos. M. Chatard.

(Continued.)

The composition of the waters of Owens Lake is typical of all of the lakes which we have now hurriedly visited, and the method of extraction here employed is applicable to all of them in both its present stage of development and its future possibilities. We have, therefore, reached the point where we can consider what this water is and how its valuable constituents can be utilized. I am not going to weary you with columns of analyses, or with technical details, for all these things have been published and can be read; but will try to give you a broad view of the whole subject, for in that way you will be able to form a much better idea of the greatness of the future.

I have told you that the waters of these lakes contain, as their principal constituents, sodium salts (mainly chloride, sulphate, carbonate and bicarbonate), together with some borax and some potassium salts. Of these salts only the carbonate and bicarbonate have any prospective value. These waters have all been carefully and repeatedly analyzed, and the area and depth of Abert, Mono and Owens lakes fairly well determined. The amount of the two carbonates in each of these lakes can therefore be calculated, and the results are as follows:

Abert Lake has an area of 40 square miles and an average depth of 10 feet; Mono Lake, 85 square miles and a depth of 60 feet, and Owens Lake, over 100 square miles, average depth 17 feet.

Taking these areas and depths, and knowing the amount of each salt in a given volume of the water, we obtain for the number of tons of carbonate and bicarbonate in these lakes the following surprising figures:

	Sod. Carb., Tons.	
Abert Lake....	3,428,352	(3½ millions).
Mono Lake....	75,072,000	(75 millions).
Owens Lake..	39,875,200	(40 millions).
Total.....	118,375,552	(118½ millions).
	Sod. Bicarb., Tons.	
Abert Lake.....	1,560,000	(1½ millions).
Mono Lake.....	17,936,000	(18 millions).
Owens Lake.....	8,431,000	(8½ millions).
Total.....	27,927,000	(28 millions).

*A lecture delivered before the Franklin Institute, February 23, 1894.

Vast as this amount may seem, we must not forget that we are considering but three localities, leaving out the Ragtown Lakes, Summer Lake, the Black Rock Desert, Long Valley and many other places, which probably aggregate a far larger amount. It is therefore no exaggeration to say that within a belt of country 50 miles wide and extending from Abert Lake, in southern Oregon, to Owens Lake, in southeastern California, the amount of sodium carbonate, in the form of dry deposits, or of strong solutions, is more than sufficient to make 250,000,000 tons of soda ash.

Now, no one who knows that country will doubt these figures; but for all that, some hard-headed man of business in this audience is probably talking to himself thus:

"I have no doubt of it. I am also well aware that unlimited quantities of a very superior quality of ice exist at the North Pole, but I am quite sure that ice will not be any cheaper in Philadelphia next summer for that reason. I have also been told that all sea water contains gold, but have never heard of anyone getting rich from sea water unless he was a pirate or a hotel keeper."

Our friend is quite right. However lavish Nature may be, her gifts are wasted unless she so bestows them that they can be used by man. Most of these localities are at present inaccessible, and it may never be possible to make use of Mono Lake and of many of the smaller localities; but I feel that I am not exaggerating when I say that at Owens Lake alone there are space and facilities for works large enough to produce 250,000 tons of soda ash yearly, or the present annual consumption of the United States. Moreover, by a small addition to the present railroad facilities this entire amount can be profitably made and distributed at present prices. Remembering also how much soda already exists in the lake, and that the latter is continually receiving additions through drainage, you will see that even this large production could only slowly reduce the supply.

It now remains to show you how this work can be done. The fundamental principles of a correct extraction process are these: The solubility of sodium bicarbonate is much less than that of either sulphate, chloride or the ordinary carbonate. At the ordinary temperature of 60° Fahr., 100 parts of water dissolve 36 parts of sodium chloride, 16 parts of sodium carbonate, 13 parts of sulphate, and less than 9 parts of bicarbonate. With rise of temperature the solubility of sodium carbonate and of sulphate increases greatly, so that at the summer temperature of 90° Fahr., 100 parts of water can dissolve 46 parts of carbonate, or 50 parts of sulphate, but only 11 parts of bicarbonate. The solubility of bicarbonate is also much diminished if chloride or sulphate is also present in the solution. If a solution containing equal parts of sodium chloride and bicarbonate is allowed to evaporate, it will be found that almost all of the bicarbonate will crystallize before the chloride begins to deposit, and the same is the case if sulphate is substituted for the chloride, though the separation is not so sharply defined.

Now, if sodium carbonate is also present in such a solution, the bicarbonate in depositing takes with it a certain definite proportion of carbonate, and forms with it a well crystallized salt of definite composition. This double salt has long been known to mineralogists under the name of "urao," but its importance in the technology of natural soda has only lately been recognized. Upon the properties of this salt depends the entire process by which high grade soda ash can be made from the impure natural soda. We will, however, call it "summer soda," the name given to it at the Big Lake at Ragtown, and at Owens Lake, where it is the product of the crystallizing vats.

When the solution of natural soda, such as the water of any of these lakes, is allowed to evaporate at any temperature below 150° Fahr. a crop of crystals will be obtained. The crystals are colorless needles or prisms, and if the evaporation is not pushed too far will be practically free from sulphate or chloride. The composition is quite constant, and the salt may be considered as made up of 47 parts of sodium carbonate, 37 parts of bicarbonate and 16 parts of water of crystallization. If a solution contains monocarbonate, sulphate and chloride, but no bicarbonate, it will be difficult to separate the carbonate from the other salts; but if bicarbonate is present this will separate first, and in depositing every 37 parts will take with them 47 parts of carbonate. In this way we are able to extract from such a solution a very large proportion of its valuable constituents, the other salts remaining in the mother liquor.

When this "summer soda" is heated to a temperature not much above 300° Fahr. it readily parts with its water and the excess of carbonic acid belonging to the bicarbonate, and the residue is a compact "soda ash" or sodium carbonate. It is therefore apparent that to make a good soda ash from natural soda is a very simple matter. Of course, to produce the largest possible amount from a given quantity of raw material, and to do this in an economical manner, involves a great many other considerations and a thorough technical training, but such details are foreign to this evening's purpose.

I may, however, say here that the carbonic acid which is given off in the process of converting this summer soda into soda ash must be utilized as closely as practicable in any rational manufacturing method, and this can be done by absorbing it in the raw solution, thus increasing the proportion of bicarbonate and the consequent yield of summer soda. If the carbonation of the raw solution be pushed far enough, almost all of the carbonate can be converted into bicarbonate and thus be separated in one operation. This, indeed, will occasionally be found advisable in practice, but the greater part of the ash will always be made from summer soda obtained by spontaneous crystallization, for which the hot and arid climate of the region is especially favorable, and enables the soda maker to do his work with the minimum expenditure of fuel. In such a region fuel will always be an expensive item, and manual labor will be scarce, and consequently costly. The use of labor-saving devices and machinery naturally suggests itself, but will be limited by the cost of the necessary motive power, although any extra expense for this will probably be covered by greater efficiency in work and greater uniformity of product. The forms of machinery and furnaces used in the other soda processes are not suitable for this industry, though the principles can be applied with substantial modifications in design. The furnace temperatures are low, and thus fuel is saved; but careful management is necessary, and the furnace must be continuous and nearly automatic. The utilization of the furnace gases and the economical handling, packing, shipping, transporting and marketing of the products, present many interesting problems which may have to be solved by novel devices and arrangements. In general the distance to the ultimate market will be great, and every saving will be necessary.

In conclusion, I can only repeat what I have said upon another occasion: "It would seem that the time must soon come when these vast natural resources will attract the serious attention of capital and business enterprise. The path is open. The general chemical lines are already well known, and the engineering problems, while numerous, are neither very complex nor very difficult. With the steady development of the transportation facilities of the far West, it may reasonably be expected that those arid regions will soon become the seat of a new, great and prosperous industry."

Electrically Controlled Governors for Steam Engines.

At a recent meeting of the Institution of Civil Engineers of London a paper was presented on "Regulation of Steam Engines," by John Richardson, of Lincoln. Among other methods Mr. Richardson takes up the subject of electrical governing, and there can be no doubt that this is a method of control which will before long have considerable application. He says:

"The conditions that obtain for an engine driving a dynamo are not quite the same as those for maintaining a constant speed of other machinery, as, if the electric current produced by the engine were used to control its speed, it becomes possible either to run the engine at a practically uniform speed in connection with a perfectly compounded dynamo or to run it at a varying speed, maintaining either a constant difference of potential with a varying current or a constant current. Further, it is shown that by utilizing the changes in the current to control the engine, it is possible when the load is suddenly decreased to effect what is impossible with a speed governor; namely, to shut off for a time the whole of the steam supply before the engine has had an opportunity of increasing its speed."

A number of appliances which have been devised during the last fifteen years and tested for electrical regulation were described, some as examples of what should be avoided and others as successful. In most of these latter a solenoid, the core of

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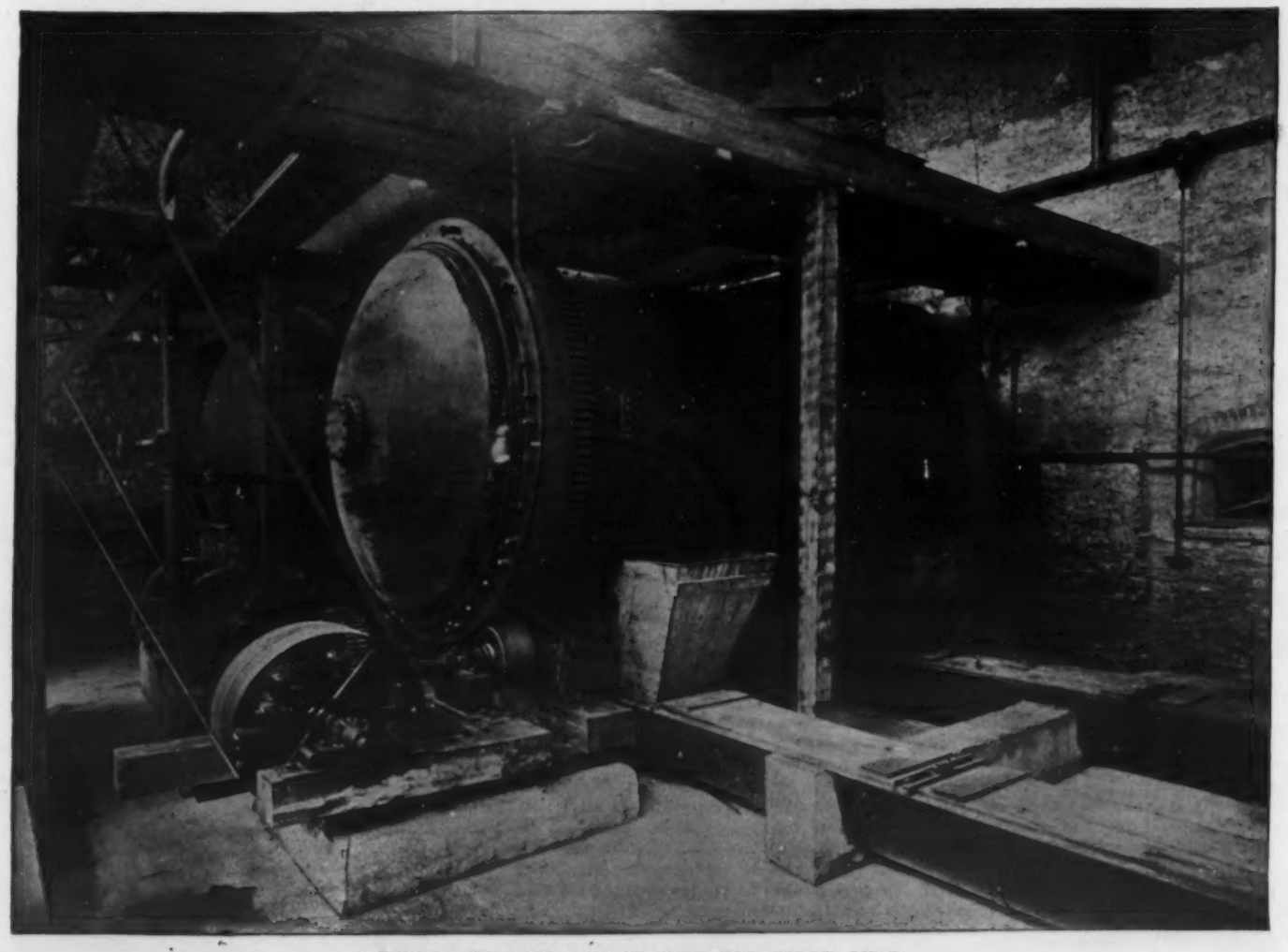

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which is held in varying position within it by the current, is connected in different ways to the valves. Two forms of electric motors for altering the position of the valves were also shown, and several forms of relays. The advantage of the direct connection of the solenoid over any other form of relay appears to be very great.

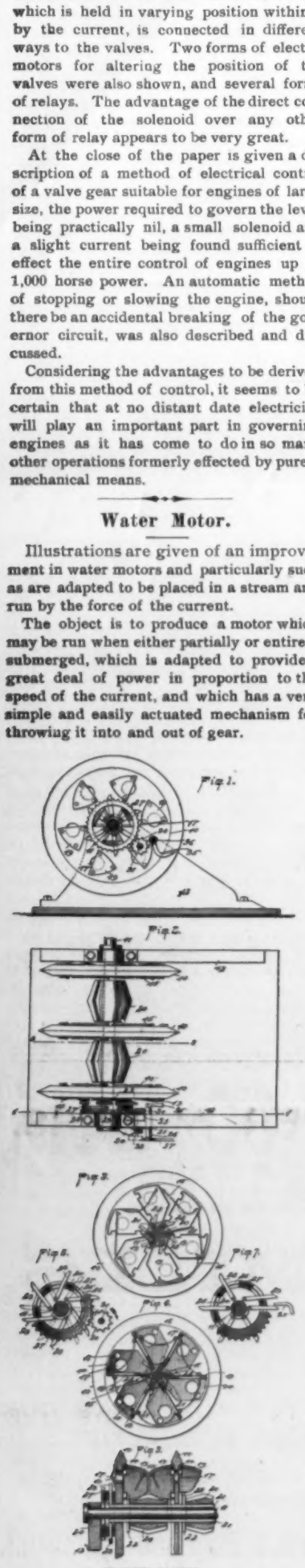
At the close of the paper is given a description of a method of electrical control of a valve gear suitable for engines of large size, the power required to govern the lever being practically nil, a small solenoid and a slight current being found sufficient to effect the entire control of engines up to 1,000 horse power. An automatic method of stopping or slowing the engine, should there be an accidental breaking of the governor circuit, was also described and discussed.

Considering the advantages to be derived from this method of control, it seems to be certain that at no distant date electricity will play an important part in governing engines as it has come to do in so many other operations formerly effected by purely mechanical means.

Water Motor.

Illustrations are given of an improvement in water motors and particularly such as are adapted to be placed in a stream and run by the force of the current.

The object is to produce a motor which may be run when either partially or entirely submerged, which is adapted to provide a great deal of power in proportion to the speed of the current, and which has a very simple and easily actuated mechanism for throwing it into and out of gear.



WATER MOTOR.

Figure 1 is a sectional elevation on the line 1—1 of Fig. 2 of the machine. Fig. 2 is a plan view of the motor. Fig. 3 is a cross section on the line 3—3 of Fig. 2 and with the gates or abutments closed. Fig. 4 is a similar section, but with the gates or abutments thrown open to the current. Fig. 5 is a broken detail longitudinal section through the central portion of the motor. Fig. 6 is a broken detail sectional view of the mechanism for locking and releasing the gates, the crank arms of the locking device being shown in position to hold the gates locked; and Fig. 7 is a similar section, but with the crank arms in position to hold the gates open, one of the arms, however, being shown as moved to throw the motor out of gear.

This motor comprises a series of wheels, 10, which preferably have beveled edges to enable them to pass easily through the current of a stream, and these wheels are secured to a common shaft, 11, which is journaled in a suitable frame, 12. The shaft may be provided with any desired number of these wheels, according to the width of the stream and the amount of power which it is desired to utilize. The wheels are provided on their sides with outwardly swinging gates, 13, which are adapted to close into recesses, 14, in the sides of the wheel when the motor is not in gear, and the end wheels have the gates on their inner sides only, so that they will not interfere with the frame and other parts of the machine, while the middle wheels have gates on both sides.

The gates on one side of a wheel are connected together by chains, 15, so that when one gate swings out to the current it will have a tendency to pull the next one open, and thus they act on each other so as to enable the motor to be thrown easily into gear. The wheels are pierced opposite the gates by holes, 17 and 18, this arrangement preventing excessive suction and also permitting the current to enter and assist in turning the wheel.

The holes 17 on the end wheels have their outer sides partially covered by deflectors, 19, which serve to throw the current through the holes, so as to help force open the gates 13. When the gates swing open their inner edges strike against the teeth of the ratchet wheels 20, which are secured to the shaft 11, and which thus serve as abutments to brace the gates. Arranged parallel with the shaft 11 and circumferentially around it are rods, 21, which have arms, 22, adapted to turn opposite the gates 13 and hold the gates closed, but the arms may be also turned back of the gate hinges so as to permit the gates to swing outward at right angles to the wheels, as shown best in Fig. 5. In this figure the gates are shown swung out at the top, as they would appear in a tide or two way current, but in an ordinary stream the gates on the lower half of the motor would open, while those on the upper half would close.

The rods 21 have at one end crank arms, 23, which project radially outward through the slots 25 and 26 of the concentric wheels 24 and 27, the latter being arranged outside the former, and having teeth thereon to engage a pinion, as described presently. These wheels 24 and 27 are movable in relation to each other, their movement being limited by a pin, 29, which is secured to the inner wheel and projects through a slot, 28, in the outer one, as shown in Fig. 2.

The teeth of the wheel 27 are adapted to engage a pinion, 30, which is carried by a shaft, 31, journaled in the frame 12, parallel with the main shaft 11, and slidably mounted in the frame. The shaft 31 has a collar, 32, at its outer end (see Fig. 2), and the shaft may be pulled endwise so that the pinion 30 may enter the recess 33, as shown by dotted lines in Fig. 2, and be out of engagement with the wheel 27. The pinion 30 may be held out of engagement with the wheel 27 by a latch, 34, which is pivoted on the frame 12, and is adapted to drop behind the collar 32.

The rods 21 and arms 22 are held normally so as to lock the gates 13, but by pushing the pinion 30 into engagement with the wheel 27 and then turning the collar 32 and pinion 30, the wheel 27 may be turned so that it strikes the crank arms 23 and oscillates them and the arms 22, so as to move the latter from in front of the gates 13 and permit these gates to swing into the current.

The machine is thrown out of gear by means of a pawl or arm, 35, which is adapted to engage the arms 23, and which has its shank journaled in a bearing, 36, in the frame 12, while a handle, 37, is secured to the outer end of the shank to enable the shank to be turned at will.

When the machine is revolving the arms 23 are of course revolved with the shaft 11, and if the machine is to be stopped, the operator turns the handle 37 so as to bring the arm or pawl 35 into successive engagement with the crank arms 23, as illustrated in Fig. 7, and thus the rods 21 are turned so as to force the arms 22 against the gates so as to close and lock them.

Constructing Foundations.

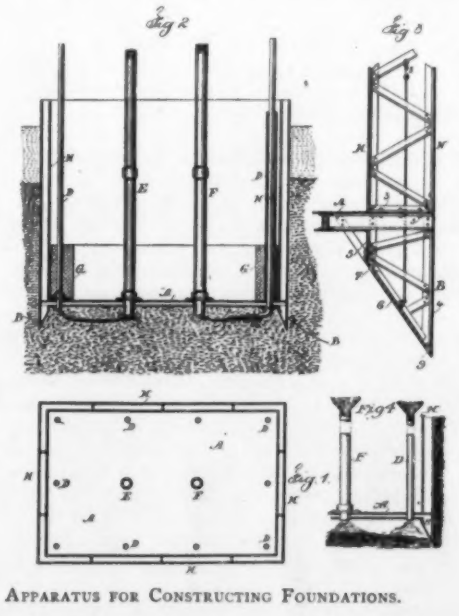
Caissons have been made use of in putting down foundations for piers, bridges and buildings, such caissons having a deck and downwardly projecting edges which pass into the soil as the caisson settles. The material inclosed between the downwardly projecting edges and beneath the deck has been excavated by hand, the water being partially excluded by atmosphere under pressure confined below the deck and between the downwardly projecting sides. In some instances the material which has been excavated has been discharged upwardly through a suitable pipe or conduit by the accumulated air pressure; but it is often dangerous for men to work in this space and exposed to the heavy atmospheric pressure.

The illustration shows a method of removing the material from beneath a caisson, so as to allow it to sink, and by which a circulation of water is had between one pipe and another for the loosening and removal of sand, mud or other substance, and thereby excavate the material beneath the caisson without the necessity of sending men into such space; and after the caisson has been sunk to the desired depth cementing material may be filled into the same by introducing such cementing material through the pipes before mentioned, thus avoiding the danger to life where men have been heretofore employed beneath such caissons and under an excessive atmospheric pressure, and at the same time lessening the expense of removing the materials beneath such caisson and allowing the same to be sunk to any desired depth.

Figure 1 is a plan and Fig. 2 a vertical section through a caisson being sunk by this method. Fig. 3 is a section representing the downwardly projecting side of the caisson, and Fig. 4 is a diagram illustrative of the introduction of cement.

The deck A of the caisson or roof is of any desired size or shape, and it is to be built in such a manner as to obtain the necessary strength and stiffness according to the size and the circumstances under which it is made use of. The downwardly projecting edges B are usually V shaped, the outer surfaces being substantially vertical so that a cutting edge is formed at the bottom of the respective sides, and the inner inclined surfaces of these downwardly projecting edges act to deflect and press toward the middle of the caisson the sand, mud or other material as the caisson descends.

Pipes D E F are passed down through the deck A at suitable distances apart, and these are advantageously arranged so that usually the pipes D are near the edges



APPARATUS FOR CONSTRUCTING FOUNDATIONS.

of the caisson, while the pipes E F are near the middle portions of the caisson. The pipes D may be down-take and the pipes E F are usually up-take, all of these pipes passing through the deck of the caisson, opening below the same. Water is forced down the pipes D, being either exhausted or allowed to flow up through the pipes E F, and in so doing channels are established between the respective pipes and below the deck of the caisson, according to the material that is acted upon, so that more or less water will be required to be forced down the pipes D and to rise up through the pipes E and F, conveying with the water the solid materials from beneath the caisson and thus excavating below the caisson and allowing it to sink from time to time as the materials are removed from below the same, according to the character of the sub-soil, so that the water being passed down either of the pipes the materials will pass up through either of the other pipes.

The down-take pipes D may simply open beneath the deck vertically or be slotted near their ends to direct the stream of water laterally, or they may be provided with elbows or nozzles either stationary or adapted to be rotated so as to project the issuing jets of water upon the material to be softened and to pass up the up take pipes, and the currents of water are to be projected or act in such a manner as to remove the material below the caisson with uniformity to maintain the deck of the caisson in the proper level condition, and such caisson is to be suitably loaded so as to cause it to sink by gravity, or any desired force may be applied in addition.

Under some circumstances the superstructure will be built upon the caisson and will form the weight made use of in carrying the caisson down, and the superstructure may be built with a wall, G, of brickwork or other material, which will leave the interior of the structure above the roof of the caisson sufficiently hollow for the necessary work to be performed, and this wall may be made use of in keeping out the surrounding water in structures which pass below the level of the water in the soil, or which may be above the soil in submarine structures, such wall being laid up watertight, but usually a shell or inclosing crib will be provided as at H, which rises above the deck of the caisson and is sufficiently strong to resist external pressure, and the same may be bolted or secured to the caisson as at 8, so as to be disconnected and removed if desired after the caisson has been sunk to the required depth and the superstructure has been built thereon.

Where the soil or material into which the caisson is to be sunk is liable to contain logs, boulders or other obstructing material, it is advantageous to make the downwardly projecting edges B hollow and of suitable steel or iron frames, as represented in Fig. 3, with exterior and interior skins, 4 and 5, so as to produce hollow chambers which may be filled with water to obtain additional weight in causing the caisson to sink by gravity, and upon the inclined inner surfaces of the downwardly projecting edges B doors or flaps, 6, are provided at suitable distances apart or so as to extend all around the caisson, such doors being hinged at their upper edges, 7, so as to open inwardly and downwardly of the caisson, and they may be secured by hooks or other fastenings, 9. These doors usually remain shut in consequence of the pressure against them from below the caisson, and they will rest against the framework within the edges, but in case a log or similar obstruction may be met beneath the cutting edge 9 of the caisson (the fact may be ascertained in any usual manner—such, for instance, as the passing down of a rod or plate outside of the edge of the caisson), and when the obstruction is located the particular chamber to which the obstruction is adjacent may be closed and water forced into the chamber after unfastening the door and the door forced open by an increased pressure of water so that a suitable cutting or drilling tool may be psssed from above through the opening between the lower edge of the door and the cutting edge 9 so as to drill, chop, disintegrate or otherwise break up the obstruction and allow the same to pass into the cavity beneath the caisson and be removed in any suitable manner if necessary.

The earthy materials can be washed out from beneath the caisson and delivered upwardly even though boulders, logs and other loose materials may accumulate beneath the caisson or be driven down by it as it sinks. When the desired depth has been reached, cementing materials may be introduced through the respective pipes D, E, F until the entire space beneath the caisson is filled in and consolidated. It is of course to be understood that the cementing materials introduced through one pipe will displace the water beneath the caisson, and that this water will pass upwardly through the up-take pipes so as to give opportunity for filling in the entire space beneath the caisson with cementing material. In cases, however, where the sand, gravel or other materials beneath the caisson are sufficiently solid and compact for supporting the superincumbent weight, it is only necessary to allow the caisson to settle until the proper depth has been reached, the materials beneath the caisson filling up the space below the deck in consequence of the weight upon the deck causing the materials to firmly consolidate.

In sinking the caisson, should any obstruction be met with, either beneath the cutting edge or at any place beneath the deck, the location of the same having been determined, a jet of water may be directed toward such obstruction so as to loosen the earthy materials around the same and allow such obstruction to settle by gravity from time to time as the caisson descends, but should the same be found to obstruct the work, it may be broken or removed as aforesaid or in any convenient manner according to the character of the obstruction.

In sinking a caisson, if the surrounding materials are of a binding character—such, for instance, as a stratum of quicksand—and such exterior materials interfere with the proper sinking of the caisson, the up-take pipes may be closed, and the water forced into the down-take pipes will gradually find its way upwardly between the exterior surface of the shell and the surrounding earthy material, so as to lessen the binding force and allow the caisson to sink.

This invention is especially available in sinking foundations for lighthouses, bridge piers and similar structures where great depth is often necessary, but it may be employed to advantage in the erection of buildings, because by sinking a caisson in the manner before mentioned with a shell or by building up the superstructure as the caisson sinks, the adjacent materials are supported and a sufficient pressure may be maintained beneath the caisson to prevent exterior materials passing below the cutting edges of the caisson, and thereby the settling of surrounding buildings may be effectually prevented.

The walls or deck of the caisson may be single or of two or more thicknesses, and of wood, iron, steel or other suitable material, and the cutting edges may be made in any desired shape.

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Invalidity of Trusts.

A recent decision by Judge Baker, of the United States District Court, at Indianapolis, has been attracting considerable attention in legal circles as a result of the bearing it seems to have upon the value of patents purchased by trusts. The decision, in brief, is that combinations cannot, as assignees, hold patent rights for purposes contrary to the public welfare.

The decision was based upon an action brought by the National Harrow Company against a firm in Charleston, Ind., for selling spring tooth harrows, manufactured by the Turner Manufacturing Company, of Lagrange, Ind., claiming the implements were an infringement on its Reed spring tooth harrow patent, No. 201,946. The plea that the company was practicing unlawful methods was upheld by Judge Baker on the ground that the company had combined to become the assignee of all the harrow patents held by manufacturers, to license these manufacturers on payment by them of a royalty, to take charge of all litigation and to fix the price at which harrows should be sold.

In his decision Judge Baker said: "So far as I can perceive the complainant is organized to receive assignments of the legal title of harrow patents; to grant back licenses to assignors to use and enjoy the same; to collect from each member of the combination or trust $1 as a license fee for each harrow manufactured and sold; to regulate and control the price at which harrows may be sold by the members of the combination, and to prosecute and defend all suits involving the alleged infringement of such assigned patents.

"It seems to me that such a combination is illegal, and that its purposes are violative of sound public policy. The common law forbids the organization of such combinations composed of numerous corporations and firms. They are dangerous to the peace and good order of society, and they arrogate to themselves the exercise of powers destructive of the right of free competition in the markets of the country, and by their aggregate power and influence imperil the free and pure administration of justice.

"Complainant says that its title to the patent in question is valid and that it has a lawful right to its protection from invasion by a stranger, regardless of the objects and purposes of the combination which it represents. On the other hand, the defendants contend that to give its title protection would be to give aid to the unlawful purposes of the combination. In suits at law it is doubtless true, as a general proposition, that a wrongdoer will not be permitted to dispute the legal title of one in possession of money or property by showing that the title thereto was unlawfully acquired, or that the owner intends to apply it to an unlawful use. I have strong doubts whether this rule ought to apply to a suit in equity, where nothing but clean hands and a good conscience will move the court to act. The combination represented by the complainant is not illegal in any other sense except that the law will not lend its aid to the accomplishment of its purposes. The common law does not prohibit the making of such combinations. It merely declines after they have been made to recognize their validity by refusing to make any decree or order which will in any way give aid to the purposes of such combinations. It seems to me that the court cannot sustain the present bill without giving aid to the unlawful combination or trust represented by the complainant. The question is not free from doubt, but in case of doubt I feel it my duty to resolve it in such a way as will not lend the countenance of the court to the creation of combinations, trusts or monopolies. They have already grown to alarming proportions, and courts, to the full extent of their powers, ought to discountenance and repress them."

The Water Level in the Lakes.

The probable effect of the opening of the Chicago drainage canal upon the water level of the great lakes has been the subject of discussion ever since that tremendous project took shape. A cry of alarm was raised several years ago when it was announced that the diversion of water from Lake Michigan in anything like the quantity required to fill the canal then being constructed across Illinois to the Mississippi Valley would seriously interfere with the navigation of the St. Clair and Detroit rivers and render it impossible for heavy draught vessels to enter most of the harbors on the lower lakes.

The Chicago engineers have done their best ever since to dispel that belief. They have maintained that the taking from the lakes of all the water that will ever be required for the canal will not lower the lake level more than 3 inches, and the Chicago newspapers have all indorsed the opinions expressed by the Chicago engineers, as a matter of course.

Prof. G. Frederick Wright, of Oberlin College, who has perhaps made a more careful study of the geology and geography of the lake region than any other man in the United States, does not agree with the Chicago engineers, however. Professor Wright shows that the quantity of water required to be turned into the drainage canal, when it is first opened, will be equal to about 5 per cent. of the quantity that now flows over Niagara.

When the population of Chicago reaches 2,000,000, the law under which the canal was constructed provides that the quantity of water passing through it shall be doubled. That means that at least 10 per cent. as much water as now passes over Niagara will be diverted from the Lakes to the Mississippi. Major Ruffner, of the Corps of Engineers of the United States Army, estimates that when the drainage canal is first opened the result will be to lower the level of Lakes Michigan, Huron and Erie and the connecting rivers at least 9 inches, and that when the canal is operated to its full capacity the fall in the water level will be 18 inches.

This Professor Wright says, may have but little effect in the rainy reason, but during the late summer and autumn he is certain that it will seriously interfere with navigation. He declares that the vessel owners and all who are interested in the commerce of the lakes should realize the danger and do all they can to avert it. As a preventive measure he suggests that a dam be constructed across the lower end of Lake Superior at the "Soo," which will raise the level of that lake 2 feet and store enough water during the rainy season to supply the lower lakes during the late summer and fall.

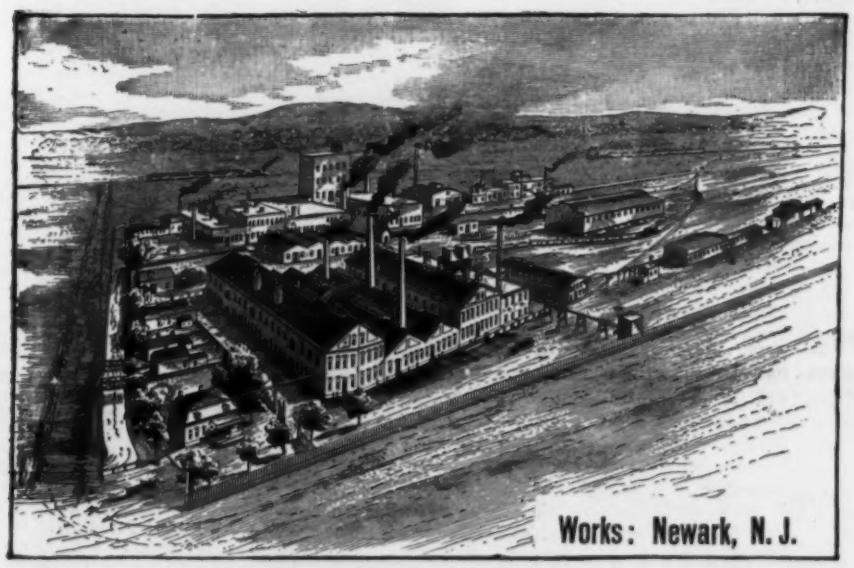
Professor Wright says that the level of the lakes is such that if the continent were to dip 50 feet to the west all the water which now goes over Niagara would flow over Illinois and into the Mississippi; and if the dip were 100 feet to the north the water of the lakes would go through Lake Nipissing into the Ottawa River and the Niagara would become dry.

Certainly his suggestions are worthy the attention of lake men and vessel owners, and an investigation should be started to determine what the actual effect of the opening of the Chicago Canal will be. Chicago ought not to be deprived of this means of disposing of its sewage, but if there is any way of preventing such a serious interference with the navigation of the lower lakes as is threatened, action should be taken at once to avert it.—*Cleveland Leader.*

Rust of Steel and Iron.

Iron and steel with a perfectly bright surface do not rust in absolutely pure water or air; carbonic acid or some similar agent must be present. Moisture, carbonic acid and oxygen being present, oxidation is not produced so long as vapor of water is not condensed upon the surface of the metal. In rusting, carbonate of iron is formed, which is dissolved in the water charged with carbonic acid and transformed into bicarbonate. In the presence of air this is decomposed and gives magnetic oxide, then a hydrated oxide of iron.

Polished iron and steel resist oxidation for a long time, but once started, the rust forms rapidly and soon spreads over the entire surface. This is because the oxide of iron formed is electro-positive relatively to the iron, and is very hygroscopic, facilitating the absorption of moisture from the air. Steel and cast iron rust more easily than the purer metal; the more pure iron is, the more it is subject to oxidation. Phosphorus acts as a preserving agent. The alloys with nickel, cobalt and chromium are less readily rusted than common iron, while that with manganese is more so.—*L'Industrie.*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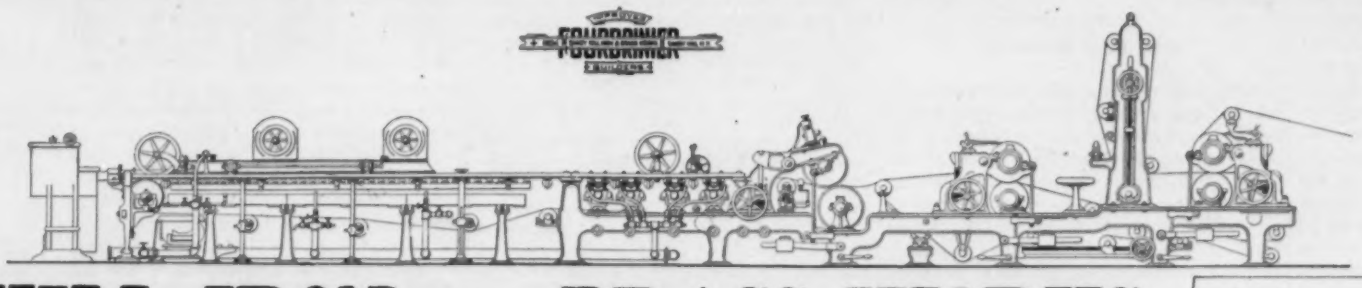

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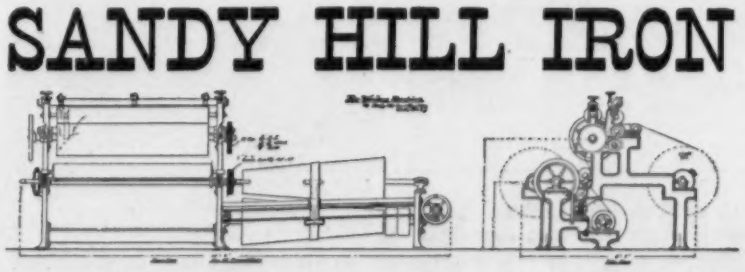

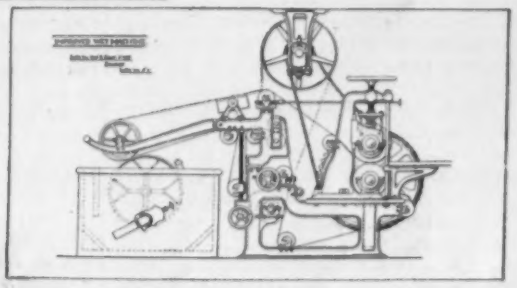

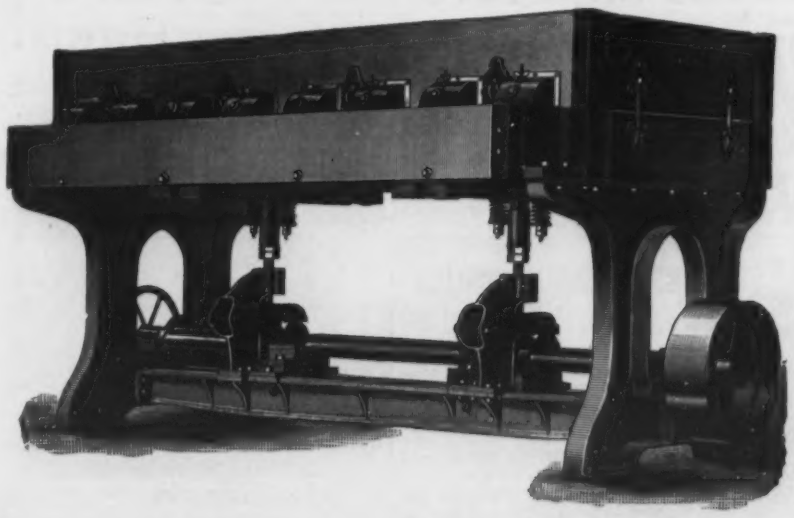

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Finding Squeaks and Knocks in Machinery.

By John H. Cooper.

I once sent a boy to find a squeak in a lathe countershaft; he returned to me, saying he could not find it. I asked him whether he used his eyes or his ears to hear with. Not understanding me exactly, I then said to him: "Let us go and see if we can find a pulley that makes the same number of turns per minute as the squeaks we hear." We soon found one. "Do you see that?" pointing to the desired pulley. "Yes, sir," he replied. "Now step up to it and oil its shaft." He did so, and silenced the squeak. "Let me now impress this upon your mind so that you will remember it as a lesson well learned," I said: "in future, when you are sent to find a machine shop squeak, be sure to use your eyes as your ears." This little incident, which happened forty years ago, I have turned to good account many times since.

Knocks in engines can be found very easily in the same way, by synchronizing the sight and sound of them. Everyone knows that the sounds of working machinery are carried to almost every fixed and working part of the same, and unless there are some means known of locating them by coincidence of motion their discovery is very difficult. The fact is generally observed that sounds are loudest where they are made, but we cannot always say in truth that sounds gradually decrease in loudness as we withdraw from the sounding body; surrounding objects may have the effect of dispersing or concentrating the waves of air which carry sounds, so to speak.

A concave body will collect the promiscuous sound waves about us, rendering them audible, which, without some special device, would pass by us unheard. So children say: "Put a sea shell to your ear and hear the ocean roar." In the philosophy of echoes the existence of surfaces which collect and return to us the expanding sound waves is included, but we are at or near the focus of these rays in order to get the benefit of the many vibrations, which, without concentration, would be lost to us. The increase of sound in one locality and its decrease in another diverts the attention, confuses the ear, and makes the locating of its origin difficult in the engine room; therefore it is necessary for the ear to have the aid of the unerring eye to fix the exact place of it and find the cause.

I have often proved the necessity of seeing as a strong aid to hearing by pacing back and forth many times the full length of the engine, as a method of locating a "thump," often finding little or no difference in the loudness of the sound wherever I might be; but as soon as I discovered a concordance of sound and motion, then at once the solution came—there was no uncertainty afterward. So, Schelling says, "In order to see aright one must know how to look." The study of acoustics and its illusions is deeply interesting by the peculiar phenomena presented and the startling disclosures made. The flight of sounds, followed by their repetition without apparent cause, as with echoes and their diversion from original sources, completely deceiving the listener, as shown by the art of the ventriloquist, are familiar and eloquent examples of the extraordinary behavior of sounds, which prove the necessity of aiding the ear in order to obtain correct knowledge.

The noises of the engine room swell and fade away and come again as if by magic, putting you all out in your search for their source. Of course we do know that knocks in engines are as numerous in variety as the engines themselves, and that they arise from many more sources than the numbers and handling of the same. One prime source of knocking is want of alignment; for, say what we will, an engine in motion under steam is in a very different condition with regard to its lines from the same engine when standing. Under severe and reversed strains, every part yielding more or less to the pressure imposed, the certainty of maintained alignment is not secured, and the extent of the departure of some essential organs of the power transmission while at work, from the mathematical exactness intended, is not known till the engine speaks in tones which the intelligent engineer ought to understand and answer.

Heavy oil and oil with pulverized and purified graphite will often cushion the bearing and cure a mild knock in shafts which are acted upon by reciprocating forces. Sliding pieces of machinery frequently knock after long use, when a change of its stroke has been made by adjustment of connected parts; a shoulder has been formed and the moving part strikes it. The amount of metal in the way is often astonishingly small, as I have found by experience in cross-head guides and steam cylinders.

The ways of some knocks are well-nigh past finding out, deceiving and defying the very elect. I had a case of knock in a vertical engine once that outwitted two of our best machinists. They both took the engine completely down and re-erected it, but failed to find the cause of the knock. A bystander declared the follower of the piston was loose, for he had a long hunt in his engine and found the knock at last, as he stated; therefore it must be in the piston. But, my dear sir, there is no follower to this piston; it is a solid one with rings sprung into its peripheral grooves. Another informed me that after diligent search everywhere, as he thought, he finally discovered the crankpin to be loose in the crank—impossible of application to our case. This engine shaft has a solid forged centre crank, all in one piece. Other causes were discussed and explained away; there was certainly no precedent for the knock we had in hand.

So dismissing all critics and adjusting properly all the working parts, "Now, John," I said, "let's see her run." And snre enough, there was that unvanquished knock, occurring every time that the cranks passed the top centre. "Now, John, run her slow—as slow as you can." We now have two knocks instead of one at the same place in the turn. Here is something to reason out; two knocks at slow speed, one at high. What part of an engine can do that? It must be at the place where the parts under the intermitting action of the steam join the continuous running wheel; for at high speed the wheel does not outrun the shaft, but the steam is quicker than the wheel and turns the shaft ahead, pressing it against the key; in the other case, when the engine creeps, the crank will hardly pass the top centre without help; but the wheel, being heavy, keeps on in rotation, crowding the key and driving the shaft over the top centre; when the steam come on it sends the shaft quickly ahead, pressing against the other side of the key. Now, if the key is not tight these knocks can be accounted for. This mystery being cleared up, I tell John what's the matter—the fly-wheel key is loose. "Stop the engine and hit the key a tap with your hammer, please." And when we started again a quieter running engine was never seen.

You sympathize with the long suffering engine driver who for months cannot trace the "knock" to its source, and silence it. He comforts you with his justifiable (?) remark that it has been in the engine from the first. You, mayhap the busy engine builder, step in on call, hear the knock at the moment you open the door of his engine room, take up a wrench from the window sill, give a tap-bolt on the cross-head a slight twist, throttling the knock, bid the engine room good-by and pass out and down the street, wondering whether it is or is not included in the curriculum of the engine man's studies and duties to seek for and to gain and to apply some knowledge of knocks—their cause and their remedy.—*Machinery.*

The Fan Blower.

Although most machines possess only specific and limited adaptability, there exists a class, in which may be included the steam engine, the pump, the blower and the like, which, while essentially specific in their operation, are employed as adjuncts to processes most diversified in their character. Thus the blower has become, through an interesting process of development, an absolute necessity in certain lines of manufacture, while many improved methods have been made possible only because of its existence in the form of the ordinary cased revolving fan.

History leads us back to the sixteenth century in our search for the origin of the fan blower, and we find it there used as a ventilating medium, operated by hand to supply air to the mines in certain parts of Europe. No new application appears until the last century, when Dr. Desaguliers somewhat perfected it for purposes of ventilation of buildings.

For use in various processes in the arts the fan blower does not appear until the present century, following well in the wake of the steam engine, the prime generator of motive power, which was a necessity to the further utilization of the blower. Very little can be learned as to the early development of the present types of fan blowers as used in the arts, but certain it is that no marked improvement was made in existing designs in this country until 1861. Then it was that B. F. Sturtevant, a young Maine cobbler, poor in pocket but rich in great mechanical ingenuity, fortunately coupled with dogged perseverance, having by his invention of a shoe pegging machine been led to see the desirability of some means of removing the refuse from shoemaking machinery, designed and began to build small fan blowers for the purpose.

Further acquaintance with the blower, the features of its design and the possibilities of its extended use rapidly led him toward the construction of special types for blowing forge fires and cupola furnaces. The blower of the early days was a crude affair as compared with the perfected machines of to-day.

To intelligently proportion and to definitely determine the capacities of various sizes and types of blowers, Mr. Sturtevant subsequently conducted an exhaustive series of tests, which have furnished to all later manufacturers the basis of much of the information which they now possess. In the pressure blower for furnishing blast at from 8 to 16 ounces pressure for cupola furnaces, the necessity of very high rotative speed, comparatively small air volume and the perfection of mechanical construction was at once evident. The pressure blower has, among all manufacturers, a general similarity of proportion and construction, variation existing mainly in the quality, but little in the appearance.

For lower pressures and general work the volume fan was designed, and from this has emanated most of the special adaptations of the fan blower. From the handling of shoe refuse to that from wood-working machinery was but a natural step, but it marked the introduction of an important improvement and great convenience to the wood-working establishment.

Likewise the handling of cotton, wool, hair and similar materials has resulted in decided economy, and to-day cotton ginning machinery is, much of it, constructed with an exhaust fan as an inherent part. Emery dust and all of the products of grinding processes are by the same agency removed at little expense and with great resulting convenience to the workmen.

In the forge shop the fan blower is now not only employed to furnish air blast to the fires, but also to remove through properly connecting pipes the smoke from the forge hoods.

Mechanical draft, as produced by the operation of a fan blower, while not of particularly recent origin, has nevertheless been most rapidly introduced in the immediate past. No matter whether applied to force the air into a closed fire room, to deliver it directly into closed ash pits or to serve in the place of a high chimney to draw the air through the fire, the blower stands as the most convenient and economical agent for the purpose. The high speed of our steam merchant and naval marine is almost without exception due to the use of forced draft in some one of these forms. Reserve steaming capacity can be far more easily and economically installed in the form of blowers of more than the anticipated required capacity than in boilers which may be called upon for maximum steaming power only at long intervals. Large stationary boiler plants are likewise being fitted with appliances for mechanical draft, making possible the more extended use of economizers and practically avoiding the use of chimneys.

In pneumatic tube systems, the manufacture of water gas, the distribution of any form of illuminating gas, the handling of acid fumes, in the sand blast machine and the like, the fan blower enters as an important and in some cases an almost indispensable factor.

Although the use of the fan for purposes of ventilation bade fair in the early part of this century to become most prominent, progress was noticeably slow until the opening of the past decade. During the previous fifty years the fan had, to a moderate extent, been introduced in connection with heating coils for the combined heating and ventilating of hospitals and halls of audience. But in every case the arrangement was special, the fan and the coils being distinctively designed and built for the particular case. Not until hot blast heaters were actually manufactured in standard sizes to accompany the fans did hot blast heating by the so-called blower system come into general notice. In fact, this method of heating appears to have been essentially rediscovered, for simple tubular steam heaters having been built for drying purposes, their utilization was thereby suggested for purposes of heating and first applied to factory heating.

This early type of heating apparatus was small in size and limited in capacity, but its successful operation resulted in the early development of various types of sectional heaters, capable of being made up in sizes suitable for blowers of various capacities. During this period also the steel plate fan had begun to replace the cast iron blower. First, instead of segmental flanged rim pieces bolted to each other and the cast iron blower sides there was substituted a wrought iron or steel plate rim. Then followed the substitution of plate for cast iron sides, making for the fan a complete steel plate casing.

The expense of large blower side patterns had been considerable, and the cost of castings therefrom exceeded by far that of the steel plate sides, punched, riveted and properly braced. The change also made it possible to construct much more readily casings of any desired shape or dimensions. In fact, the building of fans for ventilating purposes was revolutionized, and where a cast iron fan case 8 or 10 feet high was a rarity, casings 15 and 20 feet high are now common.

That the fan is now permanently established as the most economical ventilating medium there can be no doubt, and its more general application will be only a matter of time, which will doubtless be greatly facilitated by the present legislative agitation regarding improved ventilation. On the other hand, while the disk or propeller fan now appears and likely will so continue in a large variety of designs, there is little opportunity for, and less prospect of, a radical change in the present perfected designs of blowers. Improvement will rather be made in small details and in specializing the fan blower for new applications in the arts, whereby it may become, even more than at present, one of the important features of a manufacturing establishment.—*Iron Age.*

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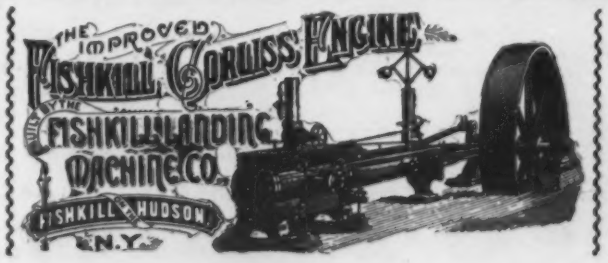

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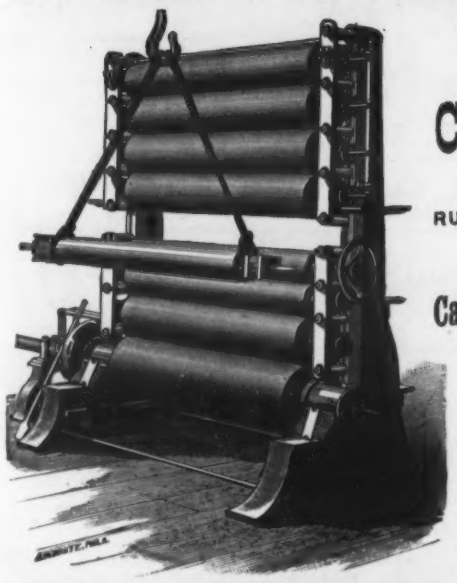

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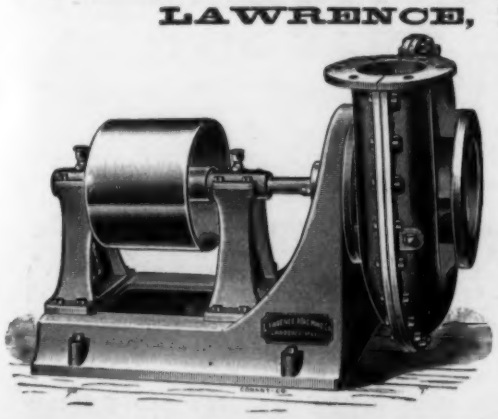

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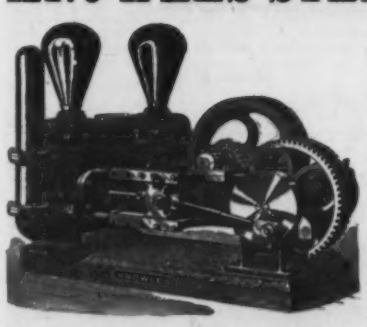

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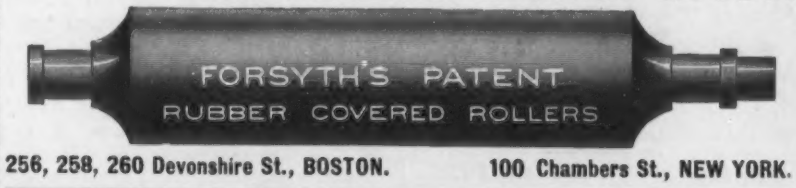

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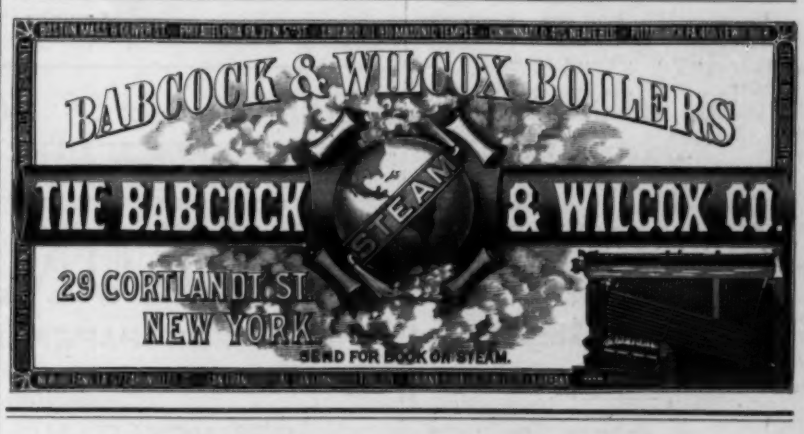

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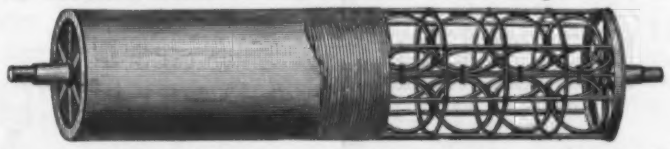

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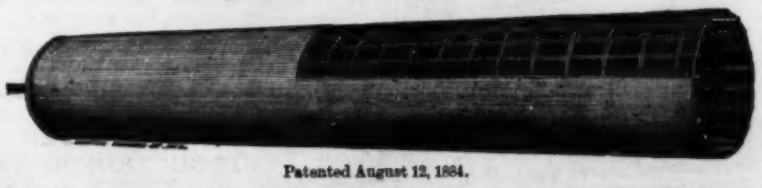

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